

**TDC** *manigley*



**N° 100**

Katalog | Catalogue

## Katalog N°100

Gültig ab März 2017

Sehr geehrte Kunden

TDC Manigley bringt die Farb-codierung zurück zum Gewinde-bohrer. Ihre Wünsche und Anregungen haben wir im über-arbeiteten Programm einfließen lassen. Weiterentwicklungen und neueste Technologien haben wir ebenso berücksichtigt. Das daraus entwickelte Programm ist somit eine Symbiose aus Erfahrung und neuester Technologie.

TDC Manigley bietet ihnen auch zukünftig Mehrwert, dies nicht nur beim Gewindeherstellen.

Für das entgegengebrachte Ver-trauen bedanken wir uns herzlich und freuen uns auf eine gemein-same Zukunft.

### Lagercode Stock

- Lagerstandard, sofort lieferbar
- teilweise ab Lager lieferbar
- △ Verfügbarkeit auf Anfrage

### AGB

Unsere allg. Verkaufs- und Liefer-bedingungen finden sie unter [www.manigley.ch](http://www.manigley.ch)

Änderungen oder Druckfehler berechtigen nicht zu Ansprüchen. Bildliche Darstellungen sind nicht verbindlich.

## Catalogue N°100

Valide dès mars 2017

Chère clientèle

TDC Manigley relance le codage couleur des tarauds. Vos sugges-tions et exigences y ont été prise en considération. Pour réaliser cette nouvelle gamme de tarauds, les technologies les plus récentes ainsi que les derniers développements ont été respecté. Le résultat est donc un pro-gramme qui sort d'une symbiose d'expérience et de la dernière technologie.

A l'avenir TDC Manigley vous offre une plus-value, non seulement lors de la fabrication de tarauds.

Merci de votre confiance en nos produits. C'est avec plaisir que nous envisageons notre future collaboration.

### Code stockage Stock

- Stock standard, livrable du stock
- partiellement disponibles du stock
- △ disponibilité sur demande

### CGV

Nos conditions générales de vente et de livraison vous les trouvez sous [www.manigley.ch](http://www.manigley.ch)

Des changements ou erreurs d'im-pression ne justifient aucun droit. Les représentations graphiques ne sont pas contraignantes.

## Catalogue N°100

Valid from March 2017

Dear customer

TDC Manigley returns to color coding taps. We have incorporated your wishes and suggestions into our revised program. We also have taken into consideration further developments and the latest tech-nologies. The resulting program is thus a symbiosis of experience and the latest technology.

TDC Manigley offers you added value in the future, not just for threading.

We thank you for your trust in our products and services and look forward to a common future.

### Stock code






















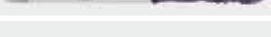
- Stock standard, available immediately
- partially available from stock
- △ Availability on request

### GTC

Our general terms and conditions of sale and delivery you find under [www.manigley.ch](http://www.manigley.ch)

Changes or printing errors do not justify any claims. All pictures are without obligation.

# Inhaltsverzeichnis / Table des matières / Table of contents







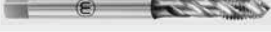






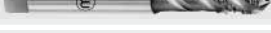



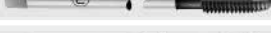

				M DIN 371/376		Seite Page
•	•				105/4	12
		•	•		131/3	12
•	•				105/4 Duo	14
		•	•		131/3 Duo	14
•	•				105/4	15
		•	•		131/3	15
•	•				105/4 Duo	17
		•	•		131/3 Duo	17
•	•				105/4	18
		•	•		131/3	18
•	•				105/4 Duo	19
		•	•		131/3 Duo	19
•	•				105/4	20
		•	•		131/3	20
•	•				105/4 Duo	21
		•	•		131/3 Duo	21
•	•				105/3	22
		•	•		105/3 Duo	23
•	•				103/3 Titan	24
		•	•		132/3 Titan	24
•	•				103/3 Titan Plus	25
		•	•		132/3 Titan Plus	25





## M DIN 371/376

Seite  
Page

•	•				105/4 Aero MJ	26
		•	•		130/3 Aero MJ	26
	•				105/4 Ultra <b>Cu</b>	27
		•	•		131/3 Ultra <b>Cu</b>	27
•	•				105/4 Ultra <b>EG</b>	 28
		•	•		131/3 Ultra <b>EG</b>	 28
•	•	•	•		105/3 Ultra	29
•	•	•	•		128/3 Ultra	29
•	•				123/4 Ultra Vap	30
•	•				123/4a Ultra Vap	30
	•				103/4 Ultra	31
		•			132/3 Ultra	31
•	•				151/3 Ultra Combi	32
•	•				105/4 Ultra <b>EL</b>	33
		•	•		131/3 Ultra <b>EL</b>	33
•	•				105/4 Ultra Vap <b>EL</b>	34
		•	•		131/3 Ultra Vap <b>EL</b>	34

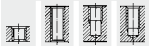
Steel

extra long

## M DIN 352






















•	•	•	•		101/1 HSS-E	35
•	•	•	•		101/2 HSS-E	35
•	•	•	•		101/3 HSS-E	35
•	•	•	•		101/S HSS-E Set	35
•	•	•	•		101/1 Ultra	37
•	•	•	•		101/2 Ultra	37
•	•	•	•		101/3 Ultra	37
•	•	•	•		101/S Ultra Set	37

Hand Tap



### M ISO 2283

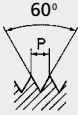
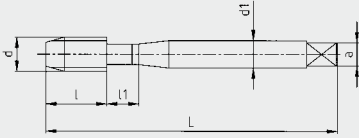
Seite  
Page

•	•					105/4 Ultra	38
•	•					105/4 Ultra Vap	38
				<b>M DIN 371/376</b>			
•	•	•	•		Former	116 Ultra	39
•	•	•	•			116 Ultra Vap	40
•	•	•	•			116a Ultra Vap	40
•	•	•	•			116 Ultra TiN	41
•	•	•	•			116a Ultra TiN	41
•	•	•	•			116 Ultra TiCN	42
•	•	•	•			116a Ultra TiCN	42
•	•					105/4 Ultra <b>6G</b>	43
		•	•		Oversize	131/3 Ultra <b>6G</b>	43
•	•					105/4 Ultra Inox <b>6G</b>	44
		•	•			131/3 Ultra Inox <b>6G</b>	44
•	•					105/4 Ultra <b>7G</b>	45
		•	•			131/3 Ultra <b>7G</b>	45
•	•					105/4 Ultra + <b>0.1</b>	46
		•	•			131/3 Ultra + <b>0.1</b>	46
•	•				Left Hand	105/4 Ultra <b>LH</b>	47
		•	•			131/3 Ultra <b>LH</b>	47
•	•					105/4 Ultra Vap <b>LH</b>	48
		•	•			131/3 Ultra Vap <b>LH</b>	48





# DIN 371/376



105/4  
HSS-E

105/4  
HSS-E

131/3  
HSS-E

131/3  
HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

L	105/4		131/3		DIN 371		DIN 376		d	P		Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
	l	l1	l	l1	d1	a	d1	a											
40	5.5				2.5	2.1			<b>M 1</b>	<b>0.25</b>	0.75	22201	●						
40	5.5				2.5	2.1			<b>M 1.2</b>	<b>0.25</b>	0.95	22202	●						
40	7				2.5	2.1			<b>M 1.4</b>	<b>0.30</b>	1.1	22203	●						
40	8				2.5	2.1			<b>M 1.6</b>	<b>0.35</b>	1.25	22204	●						
40	8				2.5	2.1			<b>M 1.8</b>	<b>0.35</b>	1.45	22205	●						
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6	22462	●			78484	●		
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05	22497	●			78506	●		
56	11	7	6	11	3.5	2.7	2.2	1.8	<b>M 3</b>	<b>0.50</b>	2.5	22519	●	61077	●	78514	●		
63	13	8	7.5	13	4.5	3.4	2.8	2.1	<b>M 4</b>	<b>0.70</b>	3.3	22535	●	61093	●	78530	●	78450	●
70	16	9	9	16	6	4.9	3.5	2.7	<b>M 5</b>	<b>0.80</b>	4.2	22543	●	61107	●	78549	●	78451	●
80	19	11	11	18	6	4.9	4.5	3.4	<b>M 6</b>	<b>1.00</b>	5	22551	●	61115	●	78557	●	78452	●
90	22	13	13	21	8	6.2	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8	22578	●	61123	●	78565	●	78453	●
100	24	15	16	22	10	8	7	5.5	<b>M 10</b>	<b>1.50</b>	8.5	22586	●	61131	●	78573	●	78454	●
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2			22594	●			78581	●
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12			22608	●			78603	●
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14			22616	●			78611	●

## D

**105/4 Gelbring**  
**131/3 Gelbring**

**Speziell geeignet für G20** Kupfer, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

## F

**105/4 Anneau jaune**  
**131/3 Anneau jaune**

**Spécialement conçu pour G20** cuivre, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

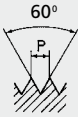
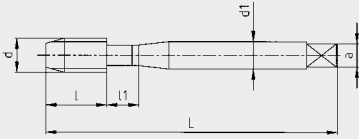
## E

**105/4 Yellow ring**  
**131/3 Yellow ring**

**Specific suitable for G20** copper, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics



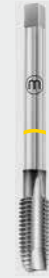
# DIN 371/376



105/4  
HSS-E



105/4  
HSS-E



131/3  
HSS-E



131/3  
HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5
140	34		25				18	14,5	<b>M 22</b>	<b>2.5</b>	19.5
160	38		28				18	14,5	<b>M 24</b>	<b>3</b>	21
160	38		32				20	16	<b>M 27</b>	<b>3</b>	24
180	45		36				22	18	<b>M 30</b>	<b>3.5</b>	26.5
180	50		38				25	20	<b>M 33</b>	<b>3.5</b>	29.5
200	56		43				28	22	<b>M 36</b>	<b>4</b>	32
200	60		43				32	24	<b>M 39</b>	<b>4</b>	35
200	60		45				32	24	<b>M 42</b>	<b>4.5</b>	37.5
220	65		45				36	29	<b>M 45</b>	<b>4.5</b>	40.5
250	70		50				36	29	<b>M 48</b>	<b>5</b>	43

DIN 371

DIN 376

DIN 371

DIN 376

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
			22624	●		78638	●
			22632	●		78646	●
			22230	●		22455	●
			22231	●		22456	●
			22232	●		22457	●
			22233	●		22458	●
			22234	●		22459	●
			22235	●		22460	●
			22236	●		22470	●
			22237	●		22471	●
			22238	●		22472	●
			22239	●		22473	●

## D

**105/4 Gelbring**  
**131/3 Gelbring**

**Speziell geeignet für G20** Kupfer, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

## F

**105/4 Anneau jaune**  
**131/3 Anneau jaune**

**Spécialement conçu pour G20** cuivre, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

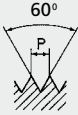
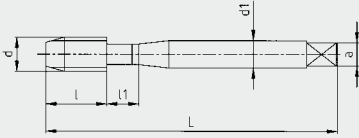
## E

**105/4 Yellow ring**  
**131/3 Yellow ring**

**Specific suitable for G20** copper, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5

105/4  
PM



DIN 371  
ISO 2 (6H)

B/4

105/4  
PM



DIN 376  
ISO 2 (6H)

B/4

131/3  
PM



DIN 371  
ISO 2 (6H)

C/2.5

131/3  
PM



DIN 376  
ISO 2 (6H)

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
43404	●			43423	●		
43405	●			43424	●		
43406	●			43425	●		
43407	●			43426	●		
43408	●			43428	●		
		43409	●			43429	●
		43410	○			43430	○
		43411	●			43431	●
		43412	○			43432	○
		43413	●			43433	●

## D

**105/4 Duo Gelbring**  
**131/3 Duo Gelbring**

**Speziell geeignet für G20** Kupfer, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

## F

**105/4 Duo anneau jaune**  
**131/3 Duo anneau jaune**

**Spécialement conçu pour G20** cuivre, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

## E

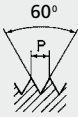
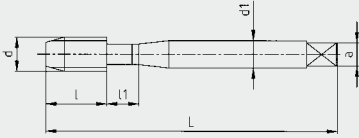
**105/4 Duo yellow ring**  
**131/3 Duo yellow ring**

**Specific suitable for G20** copper, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics





# DIN 371/376



105/4  
HSS-E

105/4  
HSS-E

131/3  
HSS-E

131/3  
HSS-E



DIN 371

DIN 376

DIN 371

DIN 376

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	l	l1	d1	a	d1	a	d	P		Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
40	5.5				2.5	2.1			<b>M 1</b>	<b>0.25</b>	0.75	11585	●						
40	5.5				2.5	2.1			<b>M 1.2</b>	<b>0.25</b>	0.95	11586	●						
40	7				2.5	2.1			<b>M 1.4</b>	<b>0.30</b>	1.1	11587	●						
40	8				2.5	2.1			<b>M 1.6</b>	<b>0.35</b>	1.25	11588	●						
40	8				2.5	2.1			<b>M 1.8</b>	<b>0.35</b>	1.45	11599	●						
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6	52000	●			73040	●		
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05	52035	●			71560	●		
56	11	7	6	11	3.5	2.7	2.2	1.8	<b>M 3</b>	<b>0.50</b>	2.5	56707	●	52051	●	44245	●		
63	13	8	7.5	13	4.5	3.4	2.8	2.1	<b>M 4</b>	<b>0.70</b>	3.3	37176	●	52078	●	45500	●	12299	●
70	16	9	9	16	6	4.9	3.5	2.7	<b>M 5</b>	<b>0.80</b>	4.2	37184	●	52086	●	45659	●	71609	●
80	19	11	11	18	6	4.9	4.5	3.4	<b>M 6</b>	<b>1.00</b>	5	37192	●	52094	●	51829	●	71617	●
90	22	13	13	21	8	6.2	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8	37206	●	52108	●	65285	●	71625	●
100	24	15	16	22	10	8	7	5.5	<b>M 10</b>	<b>1.50</b>	8.5	37214	●	52116	●	65293	●	71633	●
110	29			18			9	7	<b>M 12</b>	<b>1.75</b>	10.2			37222	●			57150	●
110	30			20			11	9	<b>M 14</b>	<b>2.00</b>	12			37230	●			57177	●
110	32			20			12	9	<b>M 16</b>	<b>2.00</b>	14			37249	●			57193	●

## D

**105/4 Schwarzring**

**131/3 Schwarzring**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>,

**G08** Werkzeugstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

## F

**105/4 Anneau noir**

**131/3 Anneau noir**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G10** aciers inoxydables Cr, sulfuré, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

## E

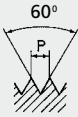
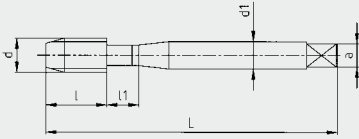
**105/4 Black ring**

**131/3 Black ring**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G10** Cr stainless steels, sulphured, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	131/3	131/3	DIN 371	DIN 371	DIN 376	DIN 376	d	P	
			l	l1	d1	a	d1	a			
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5
140	34		25				18	14.5	<b>M 22</b>	<b>2.50</b>	19.5
160	38		28				18	14.5	<b>M 24</b>	<b>3.00</b>	21
160	38		32				20	16	<b>M 27</b>	<b>3.00</b>	24
180	45		36				22	18	<b>M 30</b>	<b>3.50</b>	26.5
180	50		38				25	20	<b>M 33</b>	<b>3.50</b>	29.5
200	56		43				28	22	<b>M 36</b>	<b>4.00</b>	32
200	60		43				32	24	<b>M 39</b>	<b>4.00</b>	35
200	60		45				32	24	<b>M 42</b>	<b>4.50</b>	37.5
220	65		45				36	29	<b>M 45</b>	<b>4.50</b>	40.5
250	70		50				36	29	<b>M 48</b>	<b>5.00</b>	43

105/4  
HSS-E

105/4  
HSS-E

131/3  
HSS-E

131/3  
HSS-E



DIN 371

DIN 376

DIN 371

DIN 376

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
			○				○
		52124	○			57274	○
		52132	●			57304	●
		72801	○			77102	○
		72802	●			77103	●
		72803	●			77104	●
		72804	●			77105	●
		72805	○			77106	○
		72806	●			77107	●
		72807	○			77108	○
		72808	○			77109	○
		72809	○			77110	○
		72810	○			77112	○

**D**

**105/4 Schwarzring**

**131/3 Schwarzring**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>,

**G08** Werkzeugstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

**F**

**105/4 Anneau noir**

**131/3 Anneau noir**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G10** aciers inoxydables Cr, sulfuré, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

**E**

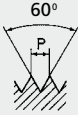
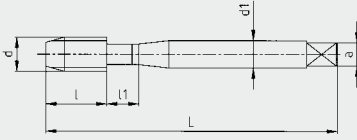
**105/4 Black ring**

**131/3 Black ring**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G10** Cr stainless steels, sulphured, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	l	l1	d1	a	d1	a	d	P	
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5
160	38		28				18	15.4	<b>M 24</b>	<b>3.00</b>	21.0

105/4  
PM



DIN 371  
ISO 2 (6H)

B/4

Art. Stock

43217 ●

43218 ●

43219 ●

43220 ●

43221 ●

43231 ●

105/4  
PM



DIN 376  
ISO 2 (6H)

B/4

Art. Stock

43232 ●

43233 ○

43234 ●

43235 ○

43236 ●

43801 ●

131/3  
PM



DIN 371  
ISO 2 (6H)

C/2.5

Art. Stock

43239 ●

43240 ●

43241 ●

43242 ●

43243 ●

43244 ●

131/3  
PM



DIN 376  
ISO 2 (6H)

C/2.5

Art. Stock

43245 ●

43246 ○

43247 ●

43248 ○

43250 ●

43252 ●

## D

### 105/4 Duo Schwarzring

### 131/3 Duo Schwarzring

Speziell geeignet für G01 Baustähle < 1000 N/mm<sup>2</sup>, G03 Einsatzstähle < 1000 N/mm<sup>2</sup>,

G08 Werkzeugstähle, G10 Rostfreie Cr-Stähle, geschwefelt, G13 Automatenstähle, G14 Stahlguss < 1000 N/mm<sup>2</sup>

## F

### 105/4 Duo anneau noir

### 131/3 Duo anneau noir

Spécialement conçu pour G01 aciers de construction < 1000 N/mm<sup>2</sup>, G03 aciers de cémentation < 1000 N/mm<sup>2</sup>, G08 aciers à outils, G10 aciers inoxydables Cr, sulfuré, G13 aciers de décolletage, G14 aciers moulés < 1000 N/mm<sup>2</sup>

## E

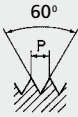
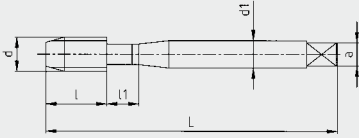
### 105/4 Duo black ring

### 131/3 Duo black ring

Specific suitable for G01 structural steels < 1000 N/mm<sup>2</sup>, G03 case hardening steels < 1000 N/mm<sup>2</sup>, G08 carbon tool steels, G10 Cr stainless steels, sulphured, G13 free-cutting steels, G14 cast steels < 1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5
160	38		28				18	14.5	<b>M 24</b>	<b>3.00</b>	21.0
180	45		36				22	18	<b>M 30</b>	<b>3.50</b>	26.5

105/4  
HSS-E



DIN 371  
ISO 2 (6H)

B/4

105/4  
HSS-E



DIN 376  
ISO 2 (6H)

B/4

131/3  
HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

131/3  
HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
93564	●			25690	●		
93556	●			25828	●		
93572	●			25925	●		
93580	●			26034	●		
93599	●			26085	●		
93602	●			26123	●		
93610	●			26212	●		
93629	●			26247	●		
		93637	●			26298	●
		93645	●			54852	●
		93653	●			54860	●
		93661	●			54879	●
		93688	●			54887	●
		93718	●			54909	●
		83976	●			84182	●

## D

**105/4 Blauring**  
**131/3 Blauring**

**Speziell geeignet für G07** Nitrierstähle,  
**G09** Hitzebeständige Stähle, **G11** Rostfreie  
Cr-Stähle, ferritisch und martensitisch,  
**G12** Rostfreie Cr-Ni Stähle, austenitisch,  
**G31** Nickellegierungen, **G32** Titan und  
Titanlegierungen

## F

**105/4 Anneau bleu**  
**131/3 Anneau bleu**

**Spécialement conçu pour G07** aciers pour  
nituration, **G09** aciers réfractaires, **G11** aciers  
inoxydables Cr, ferritique et martensitique,  
**G12** aciers inoxydables Cr-Ni, austénitique,  
**G31** alliages de nickel, **G32** titane et alliages  
de titane

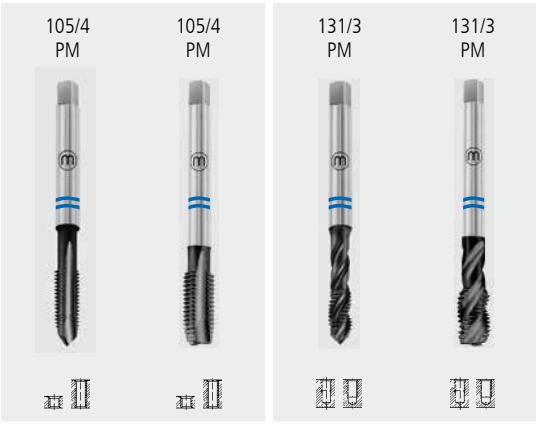
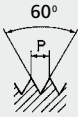
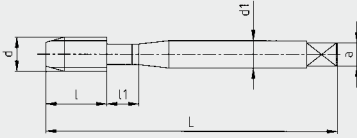
## E

**105/4 Blue ring**  
**131/3 Blue ring**

**Specific suitable for G07** nitriding steels,  
**G09** heat resisting steels, **G11** Cr stainless  
steels, ferritic and martensitic, **G12** Cr-Ni stain-  
less steels, austenitic, **G31** alloy of nickel,  
**G32** titanium and alloy of titanium



# DIN 371/376



DIN 371	DIN 376	DIN 371	DIN 376
ISO 2 (6H)	ISO 2 (6H)	ISO 2 (6H)	ISO 2 (6H)
B/4	B/4	C/2.5	C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
43285	●			43299	●		
43286	●			43300	●		
43287	●			43301	●		
43289	●			43302	●		
43290	●			43304	●		
43291	●			43305	●		
		43292	●			43306	●
		43293	○			43307	○
		43294	●			43308	●
		43295	○			43309	○
		43296	●			43310	●
		43821	●			43852	●

Norm / Norme / Norm  
 Toleranzklasse / Classe de tolérance / Class of tolerance

L	l	l1	l	l1	d1	a	d1	a	d	P	
56	11	7	6	11	3.5	2.7			M 3	0.50	2.5
63	13	8	7.5	13	4.5	3.4			M 4	0.70	3.3
70	16	9	9	16	6	4.9			M 5	0.80	4.2
80	19	11	11	18	6	4.9			M 6	1.00	5
90	22	13	13	21	8	6.2			M 8	1.25	6.8
100	24	15	16	22	10	8			M 10	1.50	8.5
110	29		18				9	7	M 12	1.75	10.2
110	30		20				11	9	M 14	2.00	12
110	32		20				12	9	M 16	2.00	14
125	34		22				14	11	M 18	2.50	15.5
140	34		25				16	12	M 20	2.50	17.5
160	38		28				18	14.5	M 24	3.00	21.0

## D

### 105/4 Duo Blauring 131/3 Duo Blauring

Speziell geeignet für G07 Nitrierstähle, G09 Hitzebeständige Stähle, G11 Rostfreie Cr-Stähle, ferritisch und martensitisch, G12 Rostfreie Cr-Ni Stähle, austenitisch, G31 Nickellegierungen, G32 Titan und Titanlegierungen

## F

### 105/4 Duo anneau bleu 131/3 Duo anneau bleu

Spécialement conçu pour G07 nituration, G09 aciers réfractaires, G11 aciers inoxydables Cr, ferritique et martensitique, G12 aciers inoxydables Cr-Ni, austénitique, G31 alliages de nickel, G32 titane et alliages de titane

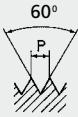
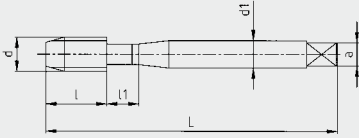
## E

### 105/4 Duo blue ring 131/3 Duo blue ring

Specific suitable for G07 nitriding steels, G09 heat resisting steels, G11 Cr stainless steels, ferritic and martensitic, G12 Cr-Ni stainless steels, austenitic, G31 alloy of nickel, G32 titanium and alloy of titanium



# DIN 371/376



105/4  
HSS-E



DIN 371  
ISO 2 (6H)

B/4

105/4  
HSS-E



DIN 376  
ISO 2 (6H)

B/4

131/3  
HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

131/3  
HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5
160	38		28				18	14.5	<b>M 24</b>	<b>3.00</b>	21.0
180	45		36				22	18	<b>M 30</b>	<b>3.50</b>	26.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
75027	●			76023	●		
75035	●			76031	●		
75043	●			76058	●		
75051	●			76066	●		
75078	●			76074	●		
75086	●			76082	●		
75094	●			76090	●		
		75108	●			76104	●
		75116	○			76112	○
		75124	●			76120	●
		75132	○			76139	○
		75140	●			76147	●
		83909	●			84204	●
		83925	○			84220	○

## D

**105/4 Rotring**

**131/3 Rotring**

**Speziell geeignet für G02** Baustähle > 900

N/mm<sup>2</sup>, **G04** Einsatzstähle > 900 N/mm<sup>2</sup>,

**G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>,

**G06** Vergütungsstähle > 900 N/mm<sup>2</sup>, **G15**

Stahlguß > 900 N/mm<sup>2</sup>, **G35** HoStockeste

Feinkornbaustähle

## F

**105/4 Anneau rouge**

**131/3 Anneau rouge**

**Spécialement conçu pour G02** aciers de

construction > 900 N/mm<sup>2</sup>, **G04** aciers de cémen-

tation > 900 N/mm<sup>2</sup>, **G05** aciers d'amélioration

< 1000 N/mm<sup>2</sup>, **G06** aciers d'amélioration > 900

N/mm<sup>2</sup>, **G15** aciers moulés > 900 N/mm<sup>2</sup>,

**G35** Aciers de construction à haute résistance et

à grains fins

## E

**105/4 Red ring**

**131/3 Red ring**

**Specific suitable for G02** structural steels

> 900 N/mm<sup>2</sup>, **G04** case hardening steels

> 900 N/mm<sup>2</sup>, **G05** heat treatable steels

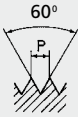
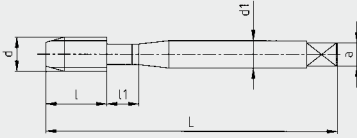
< 1000 N/mm<sup>2</sup>, **G06** heat treatable steels > 900

N/mm<sup>2</sup>, **G15** cast steels > 900 N/mm<sup>2</sup>,

**G35** High strength structural steels fine grained



# DIN 371/376



105/4  
PM



DIN 371  
ISO 2 (6H)

B/4

105/4  
PM



DIN 376  
ISO 2 (6H)

B/4

131/3  
PM



DIN 371  
ISO 2 (6H)

C/2.5

131/3  
PM



DIN 376  
ISO 2 (6H)

C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	l	l1	d1	a	d1	a	d	P	
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	30		20				11	9	<b>M 14</b>	<b>2.00</b>	12
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
125	34		22				14	11	<b>M 18</b>	<b>2.50</b>	15.5
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
43314	●			43327	●		
43315	●			43328	●		
43316	●			43329	●		
43317	●			43330	●		
43318	●			43331	●		
43319	●			43332	●		
		43320	●			43333	●
		43321	○			43334	○
		43322	●			43335	●
		43323	○			43336	○
		43324	●			43337	●

## D

### 105/4 Duo Rotring

### 131/3 Duo Rotring

Speziell geeignet für G02 Baustähle > 900

N/mm<sup>2</sup>, G04 Einsatzstähle > 900 N/mm<sup>2</sup>,

G05 Vergütungsstähle < 1000 N/mm<sup>2</sup>, G06 Ver-

gütungsstähle > 900 N/mm<sup>2</sup>, G15 Stahlguss

> 900 N/mm<sup>2</sup>, G35 HoStockeste

Feinkornbaustähle

## F

### 105/4 Duo anneau rouge

### 131/3 Duo anneau rouge

Spécialement conçu pour G02 aciers de

construction > 900 N/mm<sup>2</sup>, G04 aciers de cémenta-

tion > 900 N/mm<sup>2</sup>, G05 aciers d'amélioration

< 1000 N/mm<sup>2</sup>, G06 aciers d'amélioration > 900

N/mm<sup>2</sup>, G15 aciers moulés > 900 N/mm<sup>2</sup>,

G35 Aciers de construction à haute résistance et

à grains fins

## E

### 105/4 Duo red ring

### 131/3 Duo red ring

Specific suitable for G02 structural steels

> 900 N/mm<sup>2</sup>, G04 case hardening steels > 900

N/mm<sup>2</sup>, G05 heat treatable steels < 1000

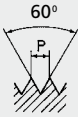
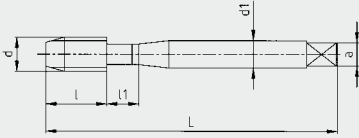
N/mm<sup>2</sup>, G6 heat treatable steels > 900 N/mm<sup>2</sup>,

G15 cast steels > 900 N/mm<sup>2</sup>, G35 High

strength structural steels fine grained



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/3		DIN 371		DIN 376		d	P	
	l	l1	d1	a	d1	a			
45	8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	8	6.2	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	10	8	7	5.5	<b>M 10</b>	<b>1.50</b>	8.5
110	29				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	32				12	9	<b>M 16</b>	<b>2.00</b>	14
140	34				16	12	<b>M 20</b>	<b>2.50</b>	17.5

105/3  
HSS-E



DIN 371

ISO 2 (6H)

C/2.5

Art.	Stock
71374	●
71382	●
37257	●
37273	●
37281	●
56715	●
37303	●
37311	●

105/3  
HSS-E



DIN 376

ISO 2 (6H)

C/2.5

Art.	Stock
71412	●
74985	●
56723	●
52159	●
52175	●

## D

### 105/3 Grünring

**Speziell geeignet für G16** Temperguss,  
**G17** Gusseisen mit Kugelgraphit (Sphäroguss),  
**G18** Gusseisen mit Lamellengraphit (Grauguss),  
**G19** Gusseisen mit Vermikulargraphit,  
**G26** Aluminium-Gusslegierungen Si 0.5%–5%,  
**G27** Aluminium-Gusslegierungen Si 5%–10%,  
**G28** Aluminium-Gusslegierungen Si > 10%,  
**G30** Magnesium-Gusslegierungen, **G33** Ferro-Tic

## F

### 105/3 Anneau vert

**Spécialement conçu pour G16** fonte malléable,  
**G17** fonte à graphite sphéroïdal, **G18** fonte à graphite lamellaire (fonte grise), **G19** fonte à graphite vermculaire, **G26** alliages de fonte d'aluminium Si 0.5%–5%, **G27** alliages de fonte d'aluminium Si 5%–10%, **G28** alliages de fonte d'aluminium Si > 10%, **G30** alliages de fonte de magnésium, **G33** ferro-Tic

## E

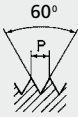
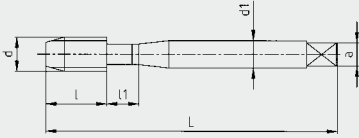
### 105/3 Green ring

**Specific suitable for G16** malleable cast iron, **G17** nodular graphite cast iron, **G18** lamellar graphite cast iron (grey cast iron), **G19** vermicular graphite cast iron, **G26** aluminium cast alloy Si 0.5%–5%, **G27** aluminium cast alloy Si 5%–10%, **G28** aluminium cast alloy Si > 10%, **G30** cast alloy of magnesium, **G33** ferro-Tic





# DIN 371/376



105/3  
HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

105/3  
HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/3		DIN 371		DIN 376		d	P	
	l	l1	d1	a	d1	a			
56	11	7	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	32				12	9	<b>M 16</b>	<b>2.00</b>	14
140	34				16	12	<b>M 20</b>	<b>2.50</b>	17.5

Art.	Stock
43446	●
43447	●
43448	●
43449	●
43452	●
43453	●

Art.	Stock
43454	●
43456	●
43458	●

## D

### 105/3 Duo Grünring

**Speziell geeignet für G16** Temperguss,  
**G17** Gusseisen mit Kugelgraphit (Sphäroguss),  
**G18** Gusseisen mit Lamellengraphit (Grauguss),  
**G19** Gusseisen mit Vermikulargraphit,  
**G26** Aluminium-Gusslegierungen Si 0.5%–5%,  
**G27** Aluminium-Gusslegierungen Si 5%–10%,  
**G28** Aluminium-Gusslegierungen Si > 10%,  
**G30** Magnesium-Gusslegierungen, **G33** Ferro-Tic

## F

### 105/3 Duo anneau vert

**Spécialement conçu pour G16** fonte malléable,  
**G17** fonte à graphite sphéroïdal, **G18** fonte à graphite lamellaire (fonte grise), **G19** fonte à graphite vermiculaire, **G26** alliages de fonte d'aluminium Si 0.5%–5%, **G27** alliages de fonte d'aluminium Si 5%–10%, **G28** alliages de fonte d'aluminium Si > 10%, **G30** alliages de fonte de magnésium, **G33** ferro-Tic

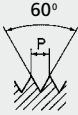
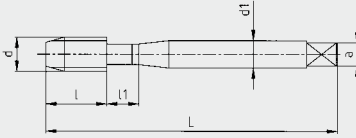
## E

### 105/3 Duo green ring

**Specific suitable for G16** malleable cast iron, **G17** nodular graphite cast iron, **G18** lamellar graphite cast iron (grey cast iron), **G19** vermicular graphite cast iron, **G26** aluminium cast alloy Si 0.5%–5%, **G27** aluminium cast alloy Si 5%–10%, **G28** aluminium cast alloy Si > 10%, **G30** cast alloy of magnesium, **G33** ferro-Tic



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	103/3		132/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5

103/3 Titan  
PM



DIN 371  
ISO 6HX

D/4

Art. Stock

69256 ●

103/3 Titan  
PM



DIN 376  
ISO 6HX

D/4

Art. Stock

69264 ●

132/3 Titan  
PM



DIN 371  
ISO 6HX

C/2.5-3

Art. Stock

69345 ●

132/3 Titan  
PM



DIN 376  
ISO 6HX

C/2.5-3

Art. Stock

69353 ●

69272 ●

69280 ●

69299 ●

69302 ●

69310 ●

69329 ●

69337 ●

69338 ○

69339 ○

69361 ●

69388 ●

69396 ●

69418 ●

69426 ●

69434 ●

69442 ●

69443 ○

69444 ○

**D**

**103/3 Titan für kleine Serien**  
**132/3 Titan für kleine Serien**

**Speziell geeignet für G24** Guss-Zinnbronze,  
**G32** Titan und Titanlegierungen, **G33** Ferro-Tic

**F**

**103/3 Titan pour des petites séries**  
**132/3 Titan pour des petites séries**

**Spécialement conçu pour G24** bronze au zinc,  
**G32** titane et alliages de titane, **G33** ferro-Tic

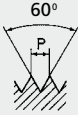
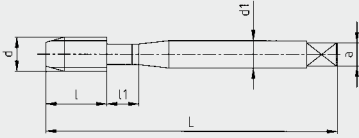
**E**

**103/3 Titan for small series**  
**132/3 Titan for small series**

**Specific suitable for G24** phosphor bronze,  
**G32** titanium and alloy of titanium,  
**G33** ferro-Tic



# DIN 371/376



103/3 Titan Plus PM    103/3 Titan Plus PM    132/3 Titan Plus PM    132/3 Titan Plus PM



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 6HX

ISO 6HX

ISO 6HX

ISO 6HX

D/4

D/4

C/2.5-3

C/2.5-3

L	103/3		132/3		DIN 371		DIN 376		d	P	f	Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
	l	l1	l	l1	d1	a	d1	a											
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6	69710	●			69790	●		
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05	69711	●			69791	●		
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5	69712	●			69792	●		
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3	69713	●			69793	●		
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2	69714	●			69794	●		
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5	69715	●			69795	●		
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8	69716	●			69796	●		
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5	69717	●			69797	●		
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2			69718	●			69798	●
110	32		20				12	9	<b>M 16</b>	<b>2.00</b>	14			69719	○			69799	○
140	34		25				16	12	<b>M 20</b>	<b>2.50</b>	17.5			69720	○			69800	○

**D**

**103/3 Titan Plus für grosse Serien**  
**132/3 Titan Plus für grosse Serien**  
**Speziell geeignet für G24** Guss-Zinnbronze,  
**G32** Titan und Titanlegierungen, **G33** Ferro-Tic

**F**

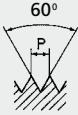
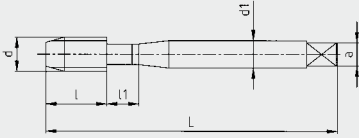
**103/3 Titan Plus pour des grandes séries**  
**132/3 Titan Plus pour des grandes séries**  
 Spécialement conçu pour **G24** bronze au zinc,  
**G32** titane et alliages de titane, **G33** ferro-tic

**E**

**103/3 Titan Plus for big series**  
**132/3 Titan Plus for big series**  
 Specific suitable for **G24** phosphor bronze,  
**G32** titanium and alloy of titanium,  
**G33** ferro-Tic



# DIN 371/376



105/4 Aero MJ PM    105/4 Aero MJ PM    130/3 Aero MJ PM    130/3 Aero MJ PM



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 4HX

ISO 4HX

ISO 4HX

ISO 4HX

B/4-5

B/4-5

C/2.5-3

C/2.5-3

L	105/4		130/131		DIN 371		DIN 376		Aero MJ		P	Hatched
	l	l <sub>1</sub>	l	l <sub>1</sub>	d <sub>1</sub>	a	d <sub>1</sub>	a	d	P		
56	11	7	6	11	3.5	2.7			<b>MJ 3</b>	<b>0.50</b>	2.6	
63	13	8	7.5	13	4.5	3.4			<b>MJ 4</b>	<b>0.70</b>	3.4	
70	16	9	9	16	6	4.9			<b>MJ 5</b>	<b>0.80</b>	4.3	
80	19	11	11	18	6	4.6			<b>MJ 6</b>	<b>1.00</b>	5.1	
90	22	13	13	21	8	6.2			<b>MJ 8</b>	<b>1.00</b>	7.1	
100	24	15	16	22	10	8			<b>MJ 10</b>	<b>1.25</b>	8.9	
110	29		18						<b>MJ 12</b>	<b>1.25</b>	10.9	

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
10473	○			10475	○		
10474	●			10476	●		
10461	●			11461	●		
10462	●			11462	●		
10465	●			11465	●		
10466	●			11466	●		
		10467	●			10469	●

## D

**105/4 Aero MJ**  
**130/3 Aero MJ**

**Speziell geeignet für G09** Hitzebeständige Stähle, **G31** Nickellegierungen

**Geht auch für** Werkstoffe mit Zugfestigkeit 900 – 1400 N/mm<sup>2</sup>

## F

**105/4 Aero MJ**  
**130/3 Aero MJ**

**Spécialement conçu pour G09** aciers réfractaires, **G31** alliages de nickel

**Conçu aussi pour** des matériaux avec une résistance de 900 – 1400 N/mm<sup>2</sup>

## E

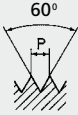
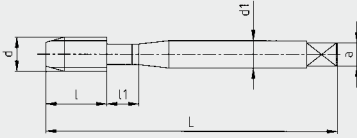
**105/4 Aero MJ**  
**130/3 Aero MJ**

**Specific suitable for G09** heat resisting steels, **G31** alloy of nickel

**Gose also for** materials with strength of extension of 900 – 1400 N/mm<sup>2</sup>



# DIN 371/376



105/4 Ultra <b>CU</b> HSS-E	105/4 Ultra <b>CU</b> HSS-E	131/3 Ultra <b>CU</b> HSS-E	131/3 Ultra <b>CU</b> HSS-E
--------------------------------	--------------------------------	--------------------------------	--------------------------------



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371	DIN 376	DIN 371	DIN 376
ISO 2 (6H)	ISO 2 (6H)	ISO 2 (6H)	ISO 2 (6H)
B/4	B/4	C/2.5	C/2.5

L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11001	○			11079	○		
11003	○			11015	○		
11004	○			11016	○		
11005	○			11017	○		
11006	○			11018	○		
11007	○			11019	○		
11008	○			11020	○		
		11009	○			11021	○

**D**

**105/4 Ultra Cu**  
**131/3 Ultra Cu**

**Speziell geeignet für G20 Kupfer,**  
**G22 Weichmessing (Ms 63, langspanend)**

**F**

**105/4 Ultra Cu**  
**131/3 Ultra Cu**

**Spécialement conçu pour G20 cuivre,**  
**G22 laiton tendre (Ms 63, copeaux longs)**

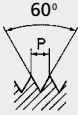
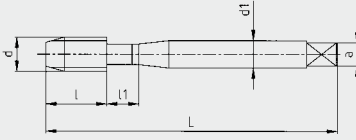
**E**

**105/4 Ultra Cu**  
**131/3 Ultra Cu**

**Specific suitable for G20 copper,**  
**G22 soft brass (MS 63, long chipping)**



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	l	l1	d1	a	d1	a	d Nom.	d	P	
56	11	6	6		3.5	2.7			3.085	<b>M 2.5</b>	<b>0.45</b>	2.65
63	10	7	6	11	4.5	3.4			3.650	<b>M 3</b>	<b>0.50</b>	3.15
70	13	8	8	12	6	4.9			4.910	<b>M 4</b>	<b>0.70</b>	4.2
80	13	12	8	17	6	4.9			6.040	<b>M 5</b>	<b>0.80</b>	5.25
90	17	11	10	18	8	6.2			7.300	<b>M 6</b>	<b>1.00</b>	6.3
100	18	13	16	22	10	8			9.624	<b>M 8</b>	<b>1.25</b>	8.4
110	21	15	15	19	12	9			11.948	<b>M 10</b>	<b>1.50</b>	10.5
110	26	17	20		11	9			14.274	<b>M 12</b>	<b>1.75</b>	12.
125	27	22			14	11			18.598	<b>M 16</b>	<b>2.00</b>	16.5
160	34	30			18	14.5			23.248	<b>M 20</b>	<b>2.50</b>	20.75

**D**

**105/4 Ultra EG**

**131/3 Ultra EG**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G07** Nitrierstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G16** Temporguss, **G17** Gusseisen mit Kugelgraphit (Sphäroguss), **G18** Gusseisen mit Lamellengraphit (Grauguss), **G19** Gusseisen mit Vermikulargraphit, **G23** Rotguss, **G26** Aluminium-Gusslegierungen Si 0.5% – 5%, **G27** Aluminium-Gusslegierungen Si 5% – 10%, **G28** Aluminium-Gusslegierungen Si > 10%, **G30** Magnesium-Gusslegierungen

**F**

**105/4 Ultra EG**

**131/3 Ultra EG**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G07** aciers pour nitration, **G10** aciers inoxydables Cr, sulfuré, **G11** aciers inoxydables Cr, ferritique et martensitique, **G12** aciers inoxydables Cr-Ni, austénitique, **G16** fonte malléable, **G17** fonte à graphite sphéroïdal, **G18** fonte à graphite lamellaire (fonte grise), **G19** fonte à graphite vermiculaire, **G23** laiton rouge, **G26** alliages de fonte d'aluminium Si 0.5% – 5%, **G27** alliages de fonte d'aluminium Si 5% – 10%, **G28** alliages de fonte d'aluminium Si > 10%, **G30** alliages de fonte de magnésium

**E**

**105/4 Ultra EG**

**131/3 Ultra EG**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G05** heat treatable steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

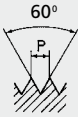
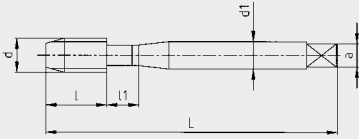
**Goes also for G07** nitriding steels, **G10** Cr stainless steels, sulphured, **G11** Cr stainless steels, ferritic and martensitic, **G12** Cr-Ni stainless steels, austenitic, **G16** malleable cast iron, **G17** nodular graphite cast iron, **G18** lamellar graphite cast iron (grey cast iron), **G19** vermicular graphite cast iron, **G23** red brass, **G26** aluminium cast alloy Si 0.5% – 5%, **G27** aluminium cast alloy Si 5% – 10%, **G28** aluminium cast alloy Si > 10%, **G30** cast alloy of magnesium

105/4 Ultra EG HSS-E		105/4 Ultra EG HSS-E		131/3 Ultra EG HSS-E		131/3 Ultra EG HSS-E	
DIN 371	DIN 376	DIN 371	DIN 376	DIN 371	DIN 376	DIN 371	DIN 376
6H mod.	6H mod.	6H mod.	6H mod.	6H mod.	6H mod.	6H mod.	6H mod.
B/4	B/4	C/2.5	C/2.5	C/2.5	C/2.5	C/2.5	C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11500	○			11511	○		
11501	●			11512	●		
11502	●			11513	●		
11503	●			11514	●		
11504	●			11515	●		
11505	●			11516	●		
11506	●			11518	●		
		11507	●			11519	●
		11508	○			11520	○
		11510	○			11521	○



# DIN 371/376



105/3 Ultra  
HSS-E

105/3 Ultra  
HSS-E

128/3 Ultra  
HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

105/3 Ultra HSS-E		105/3 Ultra HSS-E		128/3 Ultra HSS-E	
Art.	Stock	Art.	Stock	Art.	Stock
				23566	●
				23590	●
82279	○			23612	●
82287	○			23639	●
85359	○			23655	●
85367	○			23663	●
85375	○			10756	●
85383	○			10757	●
		82333	○		
		82341	△		
		82368	○		
		82376	△		
		82384	○		
		82392	△		
		82406	○		
		82414	△		
		82422	△		
		82430	△		
		82449	△		
		82457	△		
		82465	△		
		82473	△		
		82481	△		

L	105/4	131/3	DIN 371		DIN 376		d	P	Lead
	l	l1	l	l1	d1	a	d1	a	
45			9		2.8	2.1			M 2 0.40 1.6
50			9		2.8	2.1			M 2.5 0.45 2.05
56	11	7			3.5	2.7			M 3 0.50 2.5
63	13	8			4.5	3.4			M 4 0.70 3.3
70	16	9			6	4.9	3.5	2.7	M 5 0.80 4.2
80	19	11			6	4.9	4.5	3.4	M 6 1.00 5
90	22	13			8	6.2	6	4.9	M 8 1.25 6.8
100	24	15			10	8	7	5.5	M 10 1.50 8.5
110	29						9	7	M 12 1.75 10.2
110	30						11	9	M 14 2.00 12
110	32						12	9	M 16 2.00 14
125	34						14	11	M 18 2.50 15.5
140	34						16	12	M 20 2.50 17.5
140	34						18	14.5	M 22 2.50 19.5
160	38						18	14.5	M 24 3.00 21
160	38						20	16	M 27 3.00 24
180	45						22	18	M 30 3.50 26.5
180	50						25	20	M 33 3.50 29.5
200	56						28	22	M 36 4.00 32
200	60						32	24	M 39 4.00 35
200	60						32	24	M 42 4.50 37.5
220	65						36	29	M 45 4.50 40.5
250	70						36	29	M 48 5.00 43

**D**

105/3 Ultra für beschädigte Gewinde nachzuschneiden. Für Grundloch 1 x d.

**F**

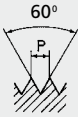
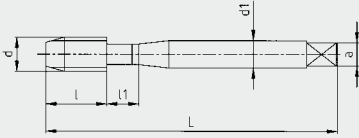
105/3 Ultra pour repasser des filetages endommagés. Pour trou borgne 1 x d.

**E**

105/3 Ultra for repairing damaged threads. Blind hole 1 x d.



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l <sub>1</sub>	DIN 371		DIN 376		d	P	Surface texture
			d <sub>1</sub>	a	d <sub>1</sub>	a			
40	5.5		2.5	2.1			<b>M 1</b>	<b>0.25</b>	0.75
40	5.5		2.5	2.1			<b>M 1.2</b>	<b>0.25</b>	0.95
40	7		2.5	2.1			<b>M 1.4</b>	<b>0.30</b>	1.1
40	8		2.5	2.1			<b>M 1.6</b>	<b>0.35</b>	1.25
40	8		2.5	2.1			<b>M 1.8</b>	<b>0.35</b>	1.45
45	8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	10	7	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	12	8	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	14	9	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	16	11	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	18	13	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	20	15	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	22				9	7	<b>M 12</b>	<b>1.75</b>	10.2

123/4 Ultra Vap HSS-E



DIN 371

ISO 2 (6H)

B/4

123a/4 Ultra Vap HSS-E



DIN 371

ISO 2 (6H)

B/4

123a/4 Ultra Vap HSS-E



DIN 376

ISO 2 (6H)

B/4

Art.	Stock	Art.	Stock	Art.	Stock
10615	●				
10616	●				
10617	●				
10619	●				
10620	●				
		10621	●		
		10624	●		
		10627	●		
		10629	●		
		10630	●		
		10631	●		
		10632	●		
		10633	●		
				10635	●

**D**

**123/4 Ultra Vap**  
**123a/4 Ultra Vap**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

**F**

**123/4 Ultra Vap**  
**123a/4 Ultra Vap**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

**E**

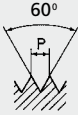
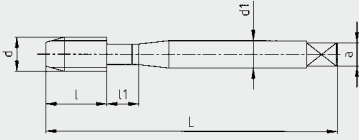
**123/4 Ultra Vap**  
**123a/4 Ultra Vap**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G05** heat treatable steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>





# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	103/4		132/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.6
50	9		9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.05
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2

103/4 Ultra HSS-E



DIN 371  
ISO 2 (6H)

B/4

Art.

Stock

58033

●

103/4 Ultra HSS-E



DIN 376  
ISO 2 (6H)

B/4

Art.

Stock

52574

●

132/3 Ultra HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

Art.

Stock

74403

●

132/3 Ultra HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Art.

Stock

74411

●

74438

●

74446

●

74454

●

71714

●

71722

●

71730

●

78115

●

### D

**103/4 Ultra** min 1.5 x D

**132/3 Ultra** min 1.5 x D

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>, **G14** Stahlguss < 1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend)

**Geht auch für G03** Einsatzstähle < 1000

N/mm<sup>2</sup>, **G25** Aluminium-Knetlegierungen

### F

**103/4 Ultra** min 1.5 x D

**132/3 Ultra** min 1.5 x D

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration < 1000 N/mm<sup>2</sup>, **G14** aciers moulés < 1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs)

**Conçu aussi pour G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G25** alliages corroyés d'aluminium

### E

**103/4 Ultra** min 1.5 x D

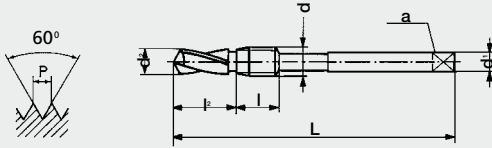
**132/3 Ultra** min 1.5 x D

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G05** heat treatable steels < 1000 N/mm<sup>2</sup>, **G14** cast steels < 1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping),

**Goes also for G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G25** wrought alloy of aluminium



Werksnorm mit DIN Schaft  
Norme usine avec tige selon DIN  
Company standard with shank  
as per DIN



151/3 Ultra Combi  
HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



Werksnorm / Norme usine / Company Standard

ISO 2 (6H)

C/2.5

L	l	d1	a	d2	l2	d	P
62	12.5	3.5	2.7	2.55	9	<b>M 3</b>	<b>0.50</b>
66	16	4.5	3.4	3.36	10	<b>M 4</b>	<b>0.70</b>
75.5	18	6	4.9	4.26	12.5	<b>M 5</b>	<b>0.80</b>
81	20	6	4.9	5.05	14	<b>M 6</b>	<b>1.00</b>
93	12	6	4.9	6.8	20	<b>M 8</b>	<b>1.25</b>
99	14	7	5.5	8.55	22	<b>M 10</b>	<b>1.50</b>
106	16	9	7	10.3	25	<b>M 12</b>	<b>1.75</b>
123	20	12	9	14.1	32	<b>M 16</b>	<b>2.00</b>

Art.	Stock
88641	●
88676	●
88684	●
88692	●
88706	●
88714	●
88722	●
88749	○

**D**

**151/3 Ultra Combi** max 1.2 x D  
**Speziell geeignet für G01** Baustähle < 1000  
N/mm<sup>2</sup>, **G14** Stahlguss < 1000 N/mm<sup>2</sup>,  
**G25** Aluminium-Knetlegierungen

**F**

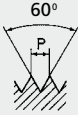
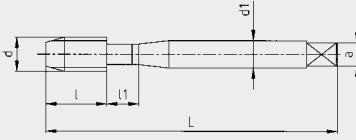
**151/3 Ultra Combi** max 1.2 x D  
**Spécialement conçu pour G01** aciers  
de construction < 1000 N/mm<sup>2</sup>, **G14** aciers  
moulés < 1000 N/mm<sup>2</sup>, **G25** alliages corroyés  
d'aluminium

**E**

**151/3 Ultra Combi** max 1.2 x D  
**Specific suitable for G01** structural steels  
< 1000 N/mm<sup>2</sup>, **G14** cast steels < 1000  
N/mm<sup>2</sup>, **G25** wrought alloy of aluminium



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
110	13		7.5	13	4.5	3.4	2.8	2.1	<b>M 4</b>	<b>0.70</b>	3.3
117	15		9	16	6	4.9	3.5	2.7	<b>M 5</b>	<b>0.80</b>	4.2
124	17		11	18	6	4.9	4.5	3.4	<b>M 6</b>	<b>1.00</b>	5
137	20		13	21	8	6.2	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8
151	22		16	22	10	8	7	5.5	<b>M 10</b>	<b>1.50</b>	8.5
165	24		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
200	30		20				12	9	<b>M 16</b>	<b>2.00</b>	14

105/4 Ultra EL  
HSS-E



DIN 376  
ISO 2 (6H)

B/4

Art.	Stock
19879	●
19887	●
19909	●
19917	●
19925	●
19941	●
83755	●

131/3 Ultra EL  
HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

131/3 Ultra EL  
HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Art.	Stock	Art.	Stock
11390	●		
11391	●		
11392	●		
11393	●		
11394	●		
		11395	●
		11397	●

## D

105/4 Ultra EL  
131/3 Ultra EL

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermo-plaste Kunststoffe

**Geht auch für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>

## F

105/4 Ultra EL  
131/3 Ultra EL

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration < 1000 N/mm<sup>2</sup>

## E

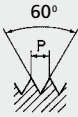
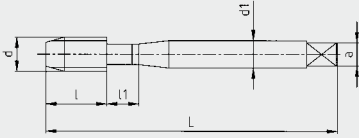
105/4 Ultra EL  
131/3 Ultra EL

**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermo-plastic compounds/synthetics

**Goes also for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G05** heat treatable steels < 1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		DIN 371		DIN 376		d	P	
	l	l1	l	l1	d1	a	d1	a			
110	13		7.5	13	4.5	3.4	2.8	2.1	<b>M 4</b>	<b>0.70</b>	3.3
117	15		9	16	6	4.9	3.5	2.7	<b>M 5</b>	<b>0.80</b>	4.2
124	17		11	18	6	4.9	4.5	3.4	<b>M 6</b>	<b>1.00</b>	5
137	20		13	21	8	6.2	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8
151	22		16	22	10	8	7	5.5	<b>M 10</b>	<b>1.50</b>	8.5
165	24		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
200	30		20				12	9	<b>M 16</b>	<b>2.00</b>	14

105/4 Ultra Vap EL HSS-E



DIN 376  
ISO 2 (6H)

B/4

131/3 Ultra Vap EL HSS-E



DIN 371  
ISO 2 (6H)

C/2.5

131/3 Ultra Vap EL HSS-E



DIN 376  
ISO 2 (6H)

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock
11403	●	11416	●		
11404	●	11417	●		
11405	●	11419	●		
11406	●	11420	●		
11407	●			11421	●
11409	●			11423	●

### D

105/4 Ultra Vap EL  
131/3 Ultra Vap EL

Speziell geeignet für G01 Baustähle < 1000 N/mm<sup>2</sup>, G03 Einsatzstähle < 1000 N/mm<sup>2</sup>, G05 Vergütungsstähle < 1000 N/mm<sup>2</sup>, G08 Werkzeugstähle, G13 Automatenstähle, G14 Stahlguss < 1000 N/mm<sup>2</sup>

### F

105/4 Ultra Vap EL  
131/3 Ultra Vap EL

Spécialement conçu pour G01 aciers de construction < 1000 N/mm<sup>2</sup>, G03 aciers de cémentation < 1000 N/mm<sup>2</sup>, G05 aciers d'amélioration < 1000 N/mm<sup>2</sup>, G08 aciers à outils, G13 aciers de décolletage, G14 aciers moulés < 1000 N/mm<sup>2</sup>

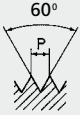
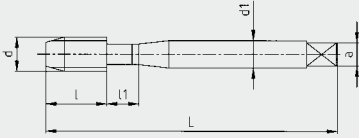
### E

105/4 Ultra Vap EL  
131/3 Ultra Vap EL

Specific suitable for G01 structural steels < 1000 N/mm<sup>2</sup>, G03 case hardening steels < 1000 N/mm<sup>2</sup>, G05 heat treatable steels < 1000 N/mm<sup>2</sup>, G08 carbon tool steels, G13 free-cutting steels, G14 cast steels < 1000 N/mm<sup>2</sup>



# DIN 352



101/1  
HSS-E



101/2  
HSS-E



101/3  
HSS-E



101/S HSS-E  
Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 352

ISO 2 (6H)

A/5

DIN 352

ISO 2 (6H)

D/3.5

DIN 352

ISO 2 (6H)

C/2

DIN 352

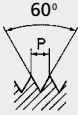
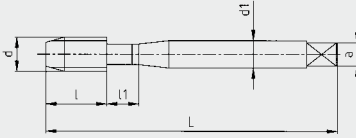
ISO 2 (6H)

L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P	
32	5		2.5	2.10	<b>M 1</b>	<b>0.25</b>	0.75
32	7		2.5	2.10	<b>M 1.4</b>	<b>0.3</b>	1.1
32	8		2.5	2.10	<b>M 1.6</b>	<b>0.35</b>	1.25
36	8		2.8	2.10	<b>M 2</b>	<b>0.4</b>	1.6
40	9		2.8	2.10	<b>M 2.5</b>	<b>0.45</b>	2.05
40	10	8	3.5	2.7	<b>M 3</b>	<b>0.5</b>	2.5
45	11	9	4	3	<b>M 3.5</b>	<b>0.6</b>	2.9
45	12	10	4.5	3.4	<b>M 4</b>	<b>0.7</b>	3.3
50	14	11	6	4.9	<b>M 5</b>	<b>0.8</b>	4.2
56	16	12	6	4.9	<b>M 6</b>	<b>1</b>	5
63	20		6	4.9	<b>M 8</b>	<b>1.25</b>	6.8
70	22		7	5.5	<b>M 10</b>	<b>1.5</b>	8.5
75	24		9	7	<b>M 12</b>	<b>1.75</b>	10.2
80	26		11	9	<b>M 14</b>	<b>2</b>	12
80	27		12	9	<b>M 16</b>	<b>2</b>	14

Stück/pce/piece				Satz/jeu/set	
Art.	Art.	Art.	Stock	Art.	Stock
83101	83102	83116	●	83117	●
83128	83129	83130	●	83131	●
83132	83133	83134	●	83135	●
83144	83145	83146	●	83147	●
83157	83158	83159	●	83160	●
83165	83166	83167	●	83168	●
83169	83170	83171	○	83172	○
83173	83174	83175	●	83176	●
83182	83183	83184	●	83185	●
83191	83192	83193	●	83195	●
83200	83201	83202	●	83203	●
83209	83210	83211	●	83212	●
83217	83218	83219	●	83220	●
83221	83222	83223	●	83225	●
83226	83227	83228	●	83229	●



# DIN 352



101/1  
HSS-E

101/2  
HSS-E

101/3  
HSS-E

101/S HSS-E  
Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 352

DIN 352

DIN 352

DIN 352

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

A/5

D/3.5

C/2

L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P	
95	32		16	12	<b>M 20</b>	<b>2.5</b>	17.5
110	34		18	14.5	<b>M 24</b>	<b>3</b>	21
110	36		20	16	<b>M 27</b>	<b>3</b>	24
125	40		22	18	<b>M 30</b>	<b>3.5</b>	26.5
125	40		25	20	<b>M 33</b>	<b>3.5</b>	29.5
150	50		28	22	<b>M 36</b>	<b>4</b>	32

Stück/pce/piece			Satz/jeu/set	Stück/pce/piece	
Art.	Art.	Art.	Stock	Art.	Stock
83235	83236	83237	●	83238	●
83243	83244	83245	●	83246	●
83247	83248	83249	○	83250	○
83251	83252	83253	○	83254	○
83255	83256	83257	○	83258	○
83260	83261	83262	○	83263	○

## D

### 101/S HSS-E

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze

### 101/4 Ultra

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G25** Aluminium-Knetlegierungen

## F

### 101/S HSS-E

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cimentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc

### 101/4 Ultra

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cimentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G25** alliages corroyés d'aluminium

## E

### 101/S HSS-E

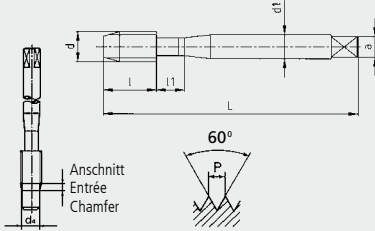
**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G24** phosphor bronze

### 101/4 Ultra

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G25** wrought alloy of aluminium



## DIN 352



101/1 Ultra  
Vorschneider mit zylindrischem Führungszapfen (Ø d<sub>1</sub>) erlaubt ein einwandfreies Anschneiden.

101/1 Ultra  
Ebaucheur avec pivot cylindrique de centrage (Ø d<sub>1</sub>) garantissant une ébauche irréprochable du file.

101/1 Ultra  
The taper tap number 1 with cylindrical pilot (Ø d<sub>1</sub>) guarantee additional aid for true alignment.

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	d <sub>1</sub>	a	d	P	
36	8	2.8	2.10	<b>M 2</b>	<b>0.4</b>	1.6
40	9	2.8	2.10	<b>M 2.5</b>	<b>0.45</b>	2.05
40	10	3.5	2.70	<b>M 3</b>	<b>0.5</b>	2.5
45	12	4.15	3.40	<b>M 4</b>	<b>0.7</b>	3.3
50	14	6	4.9	<b>M 5</b>	<b>0.8</b>	4.2
56	16	6	4.9	<b>M 6</b>	<b>1</b>	5
63	20	6	4.9	<b>M 8</b>	<b>1.25</b>	6.8
70	22	7	5.5	<b>M 10</b>	<b>1.5</b>	8.5
75	24	9	7	<b>M 12</b>	<b>1.75</b>	10.2
80	26	11	9	<b>M 14</b>	<b>2</b>	12
80	27	12	9	<b>M 16</b>	<b>2</b>	14
95	32	16	12	<b>M 20</b>	<b>2.5</b>	17.5
110	34	18	14.5	<b>M 24</b>	<b>3</b>	21

101/1 Ultra HSS-E    101/2 Ultra HSS-E    101/3 Ultra HSS-E



101/S Ultra HSS-E Satz / jeu / set



DIN 352    DIN 352    DIN 352  
ISO 2 (6H)    ISO 2 (6H)    ISO 2 (6H)  
D/3.5    D/3.5    C/3



Art.	Art.	Art.	Stück/pce/piece		Satz/jeu/set	
			Stock		Art.	Stock
38060	38061	38062	●		38063	●
38072	38073	38074	●		38076	●
38079	38080	38081	●		38082	●
38084	38085	38086	●		38087	●
38088	38089	38090	●		38092	●
38093	38094	38095	●		38096	●
38097	38098	38099	●		38100	●
38101	38102	38103	●		38104	●
38106	38107	38108	●		38109	●
38110	38111	38112	○		38114	○
38115	38116	38117	●		38118	●
38124	38125	38126	●		38127	●
38122	38133	38134	○		38135	○

**D**

### 101/S Ultra

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze

**F**

### 101/S Ultra

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc

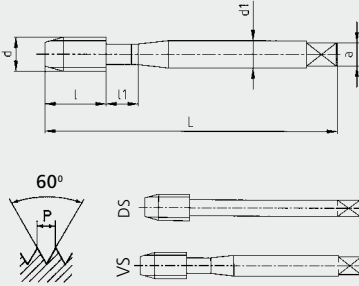
**E**

### 101/S Ultra

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G24** phosphor bronze



# ISO 2283



## 105/4 Ultra HSS-E



## 105/4 Ultra Vap HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



ISO 2283

ISO 2 (6H)

B/4

ISO 2283

ISO 2 (6H)

B/4

L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P	
57	8		2.5	2	<b>M 2</b>	<b>0.4</b>	1.6
62	9.5		2.8	2.24	<b>M 2.5</b>	<b>0.45</b>	2.05
66	11	7	3.15	2.5	<b>M 3</b>	<b>0.5</b>	2.5
68	13	7	3.55	2.8	<b>M 3.5</b>	<b>0.6</b>	2.9
73	13		3.15	2.5	<b>M 4</b>	<b>0.7</b>	3.3
79	16		4	3.15	<b>M 5</b>	<b>0.8</b>	4.2
89	19		4.5	3.55	<b>M 6</b>	<b>1</b>	5
97	22		6.3	5	<b>M 8</b>	<b>1.25</b>	6.8
108	24		8	6.3	<b>M 10</b>	<b>1.5</b>	8.5
119	29		9	7.1	<b>M 12</b>	<b>1.75</b>	10.2
137	32		12.5	10	<b>M 16</b>	<b>2</b>	14

Stück/pce/piece

Art.

Stock

Stück/pce/piece

Art.

Stock

74705

●

75361

●

10154

●

70394

●

10170

●

70416

●

10189

○

70424

○

10200

●

70432

●

10227

●

70440

●

10243

●

70459

●

10251

●

70475

●

10278

●

70483

●

10286

●

70491

●

10308

●

70513

●

### D

#### 105/4 Ultra

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

#### 105/4 Ultra Vap

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>

### F

#### 105/4 Ultra

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

#### 105/4 Ultra Vap

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>

### E

#### 105/4 Ultra

**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>

#### 105/4 Ultra Vap

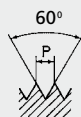
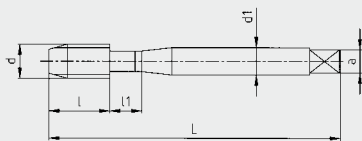
**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>



# Former



DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l <sub>1</sub>	DIN 371		DIN 376		d	P	
			d <sub>1</sub>	a	d <sub>1</sub>	a			
40	5.5	7.5	2.5	2.1			<b>M 1</b>	<b>0.25</b>	0.9
40	5.5	7.5	2.5	2.1			<b>M 1.2</b>	<b>0.25</b>	1.1
40	7	10	2.5	2.1			<b>M 1.4</b>	<b>0.30</b>	1.26
40	8	11	2.5	2.1			<b>M 1.6</b>	<b>0.35</b>	1.45
40	8	11	2.6	2.1			<b>M 1.8</b>	<b>0.35</b>	1.65
45	8	12.5	2.8	2.1			<b>M 2</b>	<b>0.40</b>	1.85
50	9		2.8	2.1			<b>M 2.5</b>	<b>0.45</b>	2.3
56	11	7	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.8
63	13	8	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.7
70	16	9	6	4.9			<b>M 5</b>	<b>0.80</b>	4.65
80	19	11	6	4.9			<b>M 6</b>	<b>1.00</b>	5.55
90	22	13	8	6.2			<b>M 8</b>	<b>1.25</b>	7.4
100	24	15	10	8			<b>M 10</b>	<b>1.50</b>	9.3
110	29				9	7	<b>M 12</b>	<b>1.75</b>	11.2

116 Ultra  
HSS-E



DIN 371

ISO 6HX

C/3

116 Ultra  
HSS-E



DIN 376

ISO 6HX

C/3

Art.	Stock	Art.	Stock
54490	●		
54491	●		
54492	●		
54493	●		
56597	●		
56599	●		
56600	●		
56601	●		
56602	●		
56603	●		
56604	●		
56605	●		
		56608	●

**D**

**116 Ultra**

**Speziell geeignet für G25 Aluminium-Knetlegierungen**

**F**

**116 Ultra**

**Spécialement conçu pour G25 alliages corroyés d'aluminium**

**E**

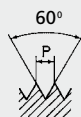
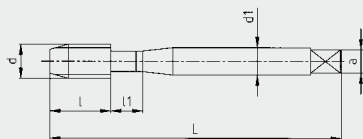
**116 Ultra**

**Specific suitable for G25 wrought alloy of aluminium**

# Former



DIN 371/376



116 Ultra  
Vap HSS-E

116 Ultra  
Vap HSS-E

116a Ultra  
Vap HSS-E

116a Ultra  
Vap HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 6HX

ISO 6HX

ISO 6HX

ISO 6HX

C/3

C/3

C/3

C/3

L	l	l <sub>1</sub>	DIN 371		DIN 376		d	P	
			d <sub>1</sub>	a	d <sub>1</sub>	a			
40	5.5	7.5	2.5	2.1			M 1	0.25	0.9
40	5.5	7.5	2.5	2.1			M 1.2	0.25	1.1
40	7	10	2.5	2.1			M 1.4	0.30	1.26
40	8	11	2.5	2.1			M 1.6	0.35	1.45
40	8	11	2.6	2.1			M 1.8	0.35	1.65
45	8	12.5	2.8	2.1			M 2	0.40	1.85
50	9		2.8	2.1			M 2.5	0.45	2.3
56	11	7	3.5	2.7			M 3	0.50	2.8
63	13	8	4.5	3.4			M 4	0.70	3.7
70	16	9	6	4.9			M 5	0.80	4.65
80	19	11	6	4.9			M 6	1.00	5.55
90	22	13	8	6.2			M 8	1.25	7.4
100	24	15	10	8			M 10	1.50	9.3
110	29				9	7	M 12	1.75	11.2

DIN 371		DIN 376		DIN 371		DIN 376	
Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
73180	●						
73199	●						
73202	●						
74470	●						
74489	●						
53317	●			11540	●		
53341	●			11544	●		
53368	●			11545	●		
53384	●			11546	●		
53392	●			11547	●		
53406	●			11548	●		
12235	●			12239	●		
12236	●			12240	●		
		53430	●			11551	●

**D**

**116 Ultra Vap**  
**116a Ultra Vap**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G10** Rostfreie Cr-Stähle, geschwefelt, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G13** Automatenstähle

**F**

**116 Ultra Vap**  
**116a Ultra Vap**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G10** aciers inoxydables Cr, sulfuré, **G11** aciers inoxydables Cr, ferritique et martensitique, **G13** aciers de décolletage

**E**

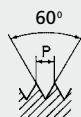
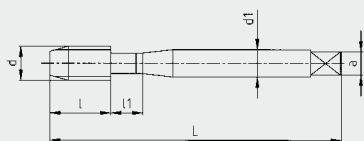
**116 Ultra Vap**  
**116a Ultra Vap**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G10** Cr stainless steels, sulphured, **G11** Cr stainless steels, ferritic and martensitic, **G13** free-cutting steels

# Former



DIN 371/376



116 Ultra  
Tin HSS-E

116 Ultra  
Tin HSS-E

116a Ultra  
Tin HSS-E

116a Ultra  
Tin HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 6HX

ISO 6HX

ISO 6HX

ISO 6HX

C/3

C/3

C/3

C/3

L	l	l <sub>1</sub>	DIN 371		DIN 376		d	P	
			d <sub>1</sub>	a	d <sub>1</sub>	a			
45	8		2.8	2.1			M 2	0.40	1.85
50	9		2.8	2.1			M 2.5	0.45	2.3
56	11	7	3.5	2.7			M 3	0.50	2.8
63	13	8	4.5	3.4			M 4	0.70	3.7
70	16	9	6	4.9			M 5	0.80	4.65
80	19	11	6	4.9			M 6	1.00	5.55
90	22	13	8	6.2			M 8	1.25	7.4
100	24	15	10	8			M 10	1.50	9.3
110	29				9	7	M 12	1.75	11.2

DIN 371		DIN 376		DIN 371		DIN 376	
Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11555	●						
11556	●			13212	●		
11557	●			13213	●		
11558	●			13214	●		
11559	●			13215	●		
11560	●			13216	●		
13219	●			13220	●		
13222	●			13223	●		
		11563	●			13224	●

D

116 Ultra Tin  
116a Ultra Tin

Speziell geeignet für G01 Baustähle < 1000 N/mm<sup>2</sup>, G10 Rostfreie Cr-Stähle, geschwefelt, G11 Rostfreie Cr-Stähle, ferritisch und martensitisch, G13 Automatenstähle, G20 Kupfer, G22 Weichmessing (Ms 63, langspanend), G25 Aluminium-Knetlegierungen

F

116 Ultra Tin  
116a Ultra Tin

Spécialement conçu pour G01 aciers de construction < 1000 N/mm<sup>2</sup>, G10 aciers inoxydables Cr, sulfuré, G11 aciers inoxydables Cr, ferritique et martensitique, G13 aciers de décolletage, G20 cuivre, G22 laiton tendre (Ms 63, copeaux longs), G25 alliages corroyés d'aluminium

E

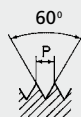
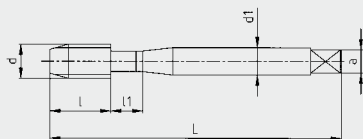
116 Ultra Tin  
116a Ultra Tin

Specific suitable for G01 structural steels < 1000 N/mm<sup>2</sup>, G10 Cr stainless steels, sulphured, G11 Cr stainless steels, ferritic and martensitic, G13 free-cutting steels, G20 copper, G22 soft brass (MS 63, long chipping), G25 wrought alloy of aluminium

# Former



DIN 371/376



116 Ultra TiCN HSS-E    116 Ultra TiCN HSS-E    116a Ultra TiCN HSS-E    116a Ultra TiCN HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371	DIN 376	DIN 371	DIN 376
ISO 6HX	ISO 6HX	ISO 6HX	ISO 6HX
C/3	C/3	C/3	C/3

L	l	l1	DIN 371		DIN 376		d	P		116 Ultra TiCN HSS-E		116a Ultra TiCN HSS-E			
			d1	a	d1	a				Art.	Stock	Art.	Stock		
45	8		2.8	2.1			M 2	0.40	1.85	11564	●				
50	9		2.8	2.1			M 2.5	0.45	2.3	11565	●	13225	●		
56	11	7	3.5	2.7			M 3	0.50	2.8	11566	●	13227	●		
63	13	8	4.5	3.4			M 4	0.70	3.7	11564	●	13228	●		
70	16	9	6	4.9			M 5	0.80	4.65	11569	●	13229	●		
80	19	11	6	4.9			M 6	1.00	5.55	11570	●	13230	●		
90	22	13	8	6.2			M 8	1.25	7.4	13235	●	13236	●		
100	24	15	10	8			M 10	1.50	9.3	13237	●	13238	●		
110	29				9	7	M 12	1.75	11.2			11573	●	13233	●

**D**

**116 Ultra TiCN**  
**116a Ultra TiCN**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G10** Rostfreie Cr-Stähle, geschwefelt, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G13** Automatenstähle, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen

**F**

**116 Ultra TiCN**  
**116a Ultra TiCN**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G10** aciers inoxydables Cr, sulfuré, **G11** aciers inoxydables Cr, ferritique et martensitique, **G13** aciers de décolletage, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium

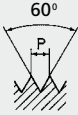
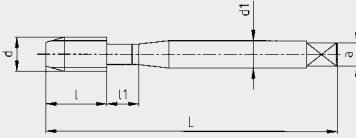
**E**

**116 Ultra TiCN**  
**116a Ultra TiCN**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G10** Cr stainless steels, sulphured, **G11** Cr stainless steels, ferritic and martensitic, **G13** free-cutting steels, **G20** copper, **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium



# DIN 371/376



105/4 Ultra **6G** HSS-E    105/4 Ultra **6G** HSS-E    131/3 Ultra **6G** HSS-E    131/3 Ultra **6G** HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371	DIN 376	DIN 371	DIN 376
ISO 3 ( <b>6G</b> )	ISO 3 ( <b>6G</b> )	ISO 3 ( <b>6G</b> )	ISO 3 ( <b>6G</b> )
B/4	B/4	C/2.5	C/2.5

L	l	l1	l	l1	DIN 371 d1	DIN 371 a	DIN 376 d1	DIN 376 a	d	P	
45	8		8		2.8	2.1			<b>M 2</b>	<b>0.45</b>	1.6
56	11	7	6	11	3.5	2.7			<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4			<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9			<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9			<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2			<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8			<b>M 10</b>	<b>1.50</b>	8.5
110	29		18				9	7	<b>M 12</b>	<b>1.75</b>	10.2
110	32						12	9	<b>M 16</b>	<b>2.00</b>	14

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
72222	●			73059	●		
72036	●			66397	●		
72052	●			66419	●		
72060	●			66427	●		
72079	●			66435	●		
72087	●			66443	●		
72095	●			66451	●		
		72109	●			73105	●
		82724	●				

## D

**105/4 Ultra 6G**  
**131/3 Ultra 6G**

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermo-plaste Kunststoffe

**Geht auch für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>

## F

**105/4 Ultra 6G**  
**131/3 Ultra 6G**

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration < 1000 N/mm<sup>2</sup>

## E

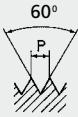
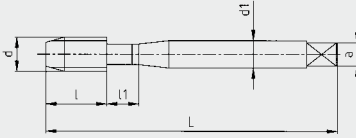
**105/4 Ultra 6G**  
**131/3 Ultra 6G**

**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermo-plastic compounds/synthetics

**Goes also for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G05** heat treatable steels < 1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d	P	
	l	l <sub>1</sub>	l	l <sub>1</sub>					
45	8				2.8	2.1	<b>M 2</b>	<b>0.45</b>	1.6
56	11	7	6	11	3.5	2.7	<b>M 3</b>	<b>0.50</b>	2.5
63	13	8	7.5	13	4.5	3.4	<b>M 4</b>	<b>0.70</b>	3.3
70	16	9	9	16	6	4.9	<b>M 5</b>	<b>0.80</b>	4.2
80	19	11	11	18	6	4.9	<b>M 6</b>	<b>1.00</b>	5
90	22	13	13	21	8	6.2	<b>M 8</b>	<b>1.25</b>	6.8
100	24	15	16	22	10	8	<b>M 10</b>	<b>1.50</b>	8.5
110	29				9	7	<b>M 12</b>	<b>1.75</b>	10.2

105/4 Ultra  
Inox 6G HSS-E



DIN 371

ISO 3 (6G)

B/4

Art. 10890

Stock ○

105/4 Ultra  
Inox 6G HSS-E



DIN 376

ISO 3 (6G)

B/4

Art. 10895

Stock ●

131/3 Ultra  
Inox 6G HSS-E



DIN 371

ISO 3 (6G)

C/2.5

Art. 67113

Stock ○

131/3 Ultra  
Inox 6G HSS-E



DIN 376

ISO 3 (6G)

C/2.5

Art. 67172

Stock ●

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
10890	○			67113	○		
10895	●			67172	●		
10897	●			67199	●		
10899	●			67202	●		
10900	●			67210	●		
10903	●			67237	●		
10904	●			67245	●		
		10905	●			67253	●

## D

105/4 Ultra Inox 6G

131/3 Ultra Inox 6G

Speziell geeignet für G07 Nitrierstähle, G09 Hitzebeständige Stähle, G10 Rostfreie Cr-Stähle, geschwefelt, G11 Rostfreie Cr-Stähle, ferritisch und martensitisch, G12 Rostfreie Cr-Ni Stähle, austenitisch, G31 Nickellegierungen

Geht auch für G01 Baustähle <1000

N/mm<sup>2</sup>, G03 Einsatzstähle <1000 N/mm<sup>2</sup>, G05 Vergütungsstähle <1000 N/mm<sup>2</sup>, G14 Stahlguss <1000 N/mm<sup>2</sup>

## F

105/4 Ultra Inox 6G

131/3 Ultra Inox 6G

Spécialement conçu pour G07 aciers pour nituration, G09 aciers réfractaires, G10 aciers inoxydables A Cr, sulfuré, G11 aciers inoxydables Cr, ferritique et martensitique G12 aciers inoxydables Cr-Ni, austénitique, G31 alliages de nickel

Conçu aussi pour G01 aciers de construction

<1000 N/mm<sup>2</sup>, G03 aciers de cémentation <1000 N/mm<sup>2</sup>, G05 aciers d'amélioration <1000 N/mm<sup>2</sup>, G14 aciers moulés <1000 N/mm<sup>2</sup>

## E

105/4 Ultra Inox 6G

131/3 Ultra Inox 6G

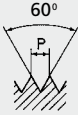
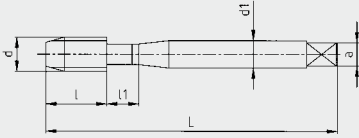
Specific suitable for G07 nitriding steels, G09 heat resisting steels, G10 Cr stainless steels, sulphured, G11 Cr stainless steels, ferritic and martensitic, G12 Cr-Ni stainless steels, austenitic, G31 alloy of nickel

Goes also for G01 structural steels

<1000 N/mm<sup>2</sup>, G03 case hardening steels <1000 N/mm<sup>2</sup>, G05 heat treatable steels <1000 N/mm<sup>2</sup>, G14 cast steels <1000 N/mm<sup>2</sup>



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4			131/3			d <sub>1</sub>	a	d	P	
	l	l <sub>1</sub>	l <sub>1</sub>	l	l <sub>1</sub>	l <sub>1</sub>					
45	8			8			2.8	2.1	<b>M 2</b>	<b>0.4</b>	1.6
56	11	7		6	11		3.5	2.7	<b>M 3</b>	<b>0.50</b>	2.5
63	13	8		7.5	13		4.5	3.4	<b>M 4</b>	<b>0.70</b>	3.3
70	16	9		9	16		6	4.9	<b>M 5</b>	<b>0.80</b>	4.2
80	19	11		11	18		6	4.9	<b>M 6</b>	<b>1.00</b>	5
90	22	13		13	21		8	6.2	<b>M 8</b>	<b>1.25</b>	6.8
100	24	15		16	22		10	8	<b>M 10</b>	<b>1.50</b>	8.5
110	29			18			9	7	<b>M 12</b>	<b>1.75</b>	10.2

105/4 Ultra 7G HSS-E



DIN 371

ISO (7G)

B/4

Art. Stock

10920 ○

12380 ○

105/4 Ultra 7G HSS-E



DIN 376

ISO (7G)

B/4

Art. Stock

10923 ○

10924 ○

10925 ○

10926 ○

10927 ○

10929 ○

131/3 Ultra 7G HSS-E



DIN 371

ISO (7G)

C/2.5

Art. Stock

12387 ○

12388 ○

12389 ○

12390 ○

12391 ○

12392 ○

131/3 Ultra 7G HSS-E



DIN 376

ISO (7G)

C/2.5

Art. Stock

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

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10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

10930 ○

## D

**105/4 Ultra 7G**  
**131/3 Ultra 7G**

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

## F

**105/4 Ultra 7G**  
**131/3 Ultra 7G**

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

## E

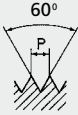
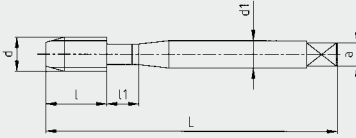
**105/4 Ultra 7G**  
**131/3 Ultra 7G**

**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>



# DIN 371/376



105/4 Ultra +0.1 HSS-E



105/4 Ultra +0.1 HSS-E



131/3 Ultra +0.1 HSS-E



131/3 Ultra +0.1 HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 371

DIN 376

DIN 371

DIN 376

ISO 2 (6H)+0.1

ISO 2 (6H)+0.1

ISO 2 (6H)+0.1

ISO 2 (6H)+0.1

B/4

B/4

C/2.5

C/2.5

L	105/4			131/3			d <sub>1</sub>	a	d	P	
	l	l <sub>1</sub>	l <sub>2</sub>	l	l <sub>1</sub>	l <sub>2</sub>					
56	11	7	6	11	3.5	2.7	<b>M 3</b>	<b>0.50</b>	2.5		
63	13	8	7.5	13	4.5	3.4	<b>M 4</b>	<b>0.70</b>	3.3		
70	16	9	9	16	6	4.9	<b>M 5</b>	<b>0.80</b>	4.2		
80	19	11	11	18	6	4.9	<b>M 6</b>	<b>1.00</b>	5		
90	22	13	13	21	8	6.2	<b>M 8</b>	<b>1.25</b>	6.8		
100	24	15	16	22	10	8	<b>M 10</b>	<b>1.50</b>	8.5		
110	29		18	9	7		<b>M 12</b>	<b>1.75</b>	10.2		

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11471	○			11481	○		
11472	○			11482	○		
11473	○			11483	○		
11474	○			11484	○		
11475	○			11485	○		
		11476	○			11488	○

## D

**105/4 Ultra +0.1**

**131/3 Ultra +0.1**

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

## F

**105/4 Ultra +0.1**

**131/3 Ultra +0.1**

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

## E

**105/4 Ultra +0.1**

**131/3 Ultra +0.1**

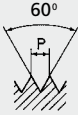
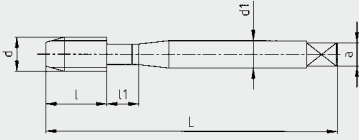
**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>





# DIN 371/376



105/4 Ultra LH HSS-E    105/4 Ultra LH HSS-E    131/3 Ultra LH HSS-E    131/3 Ultra LH HSS-E



Norm / Norme / Norm  
Toleranzklasse / Classe de tolérance / Class of tolerance

DIN 371	DIN 376	DIN 371	DIN 376
ISO 2 (6H) LH	ISO 2 (6H) LH	ISO 2 (6H) LH	ISO 2 (6H) LH
B/4	B/4	C/2.5	C/2.5



L	105/4		131/3		d <sub>1</sub>	a	d	P	f
	l	l <sub>1</sub>	l	l <sub>1</sub>					
45	8		8		2.8	2.1	M 2	0.40	1.6
50	9		9		2.8	2.1	M 2.5	0.45	2.05
56	11	7	6	11	3.5	2.7	M 3	0.50	2.5
63	13	8	7.5	13	4.5	3.4	M 4	0.70	3.3
70	16	9	9	16	6	4.9	M 5	0.80	4.2
80	19	11	11	18	6	4.9	M 6	1.00	5
90	22	13	13	21	8	6.2	M 8	1.25	6.8
100	24	15	16	22	10	8	M 10	1.50	8.5
110	29		18		9	7	M 12	1.75	10.2
110	30		20		11	9	M 14	2.00	12
110	32		20		12	9	M 16	2.00	14

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
82503	●						
82546	●						
82562	●			83984	●		
82589	●			83992	●		
82600	●			84018	●		
82619	●			84026	●		
82635	●			84034	●		
82643	●			84042	●		
		82651	●			84050	●
		82678	△			84069	△
		82686	●			84077	●

## D

105/4 Ultra LH  
131/3 Ultra LH

Speziell geeignet für G21 Hartmessing (Ms 58, kurzspanend), G22 Weichmessing (Ms 63, langspanend), G25 Aluminium-Knetlegierungen, G29 Magnesium-Knetlegierungen, G34 Thermoplaste Kunststoffe

Geht auch für G01 Baustähle <1000 N/mm<sup>2</sup>, G03 Einsatzstähle <1000 N/mm<sup>2</sup>, G05 Vergütungsstähle <1000 N/mm<sup>2</sup>

## F

105/4 Ultra LH  
131/3 Ultra LH

Spécialement conçu pour G21 laiton dur (Ms 58, copeaux courts), G22 laiton tendre (Ms 63, copeaux longs), G25 alliages corroyés d'aluminium, G29 alliages corroyés de magnésium, G34 matières thermoplastiques

Conçu aussi pour G01 aciers de construction <1000 N/mm<sup>2</sup>, G03 aciers de cémentation <1000 N/mm<sup>2</sup>, G05 aciers d'amélioration <1000 N/mm<sup>2</sup>

## E

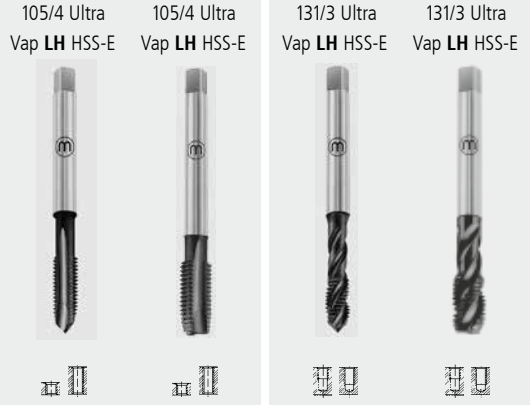
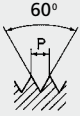
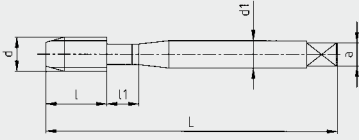
105/4 Ultra LH  
131/3 Ultra LH

Specific suitable for G21 hard brass (Ms 58, short chipping), G22 soft brass (Ms 63, long chipping), G25 wrought alloy of aluminium, G29 wrought alloy of magnesium, G34 thermoplastic compounds/synthetics

Goes also for G01 structural steels <1000 N/mm<sup>2</sup>, G03 case hardening steels <1000 N/mm<sup>2</sup>, G05 heat treatable steels <1000 N/mm<sup>2</sup>



# DIN 371/376



DIN 371	DIN 376	DIN 371	DIN 376
ISO 2 (6H) LH	ISO 2 (6H) LH	ISO 2 (6H) LH	ISO 2 (6H) LH
B/4	B/4	C/2.5	C/2.5

Norm / Norme / Norm  
Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d	P	Surface texture
	l	l <sub>1</sub>	l	l <sub>1</sub>					
45	8		8		2.8	2.1	M 2	0.40	1.6
50	9		9		2.8	2.1	M 2.5	0.45	2.05
56	11	7	6	11	3.5	2.7	M 3	0.50	2.5
63	13	8	7.5	13	4.5	3.4	M 4	0.70	3.3
70	16	9	9	16	6	4.9	M 5	0.80	4.2
80	19	11	11	18	6	4.9	M 6	1.00	5
90	22	13	13	21	8	6.2	M 8	1.25	6.8
100	24	15	16	22	10	8	M 10	1.50	8.5
110	29		18		9	7	M 12	1.75	10.2
110	32		20		12	9	M 16	2.00	14

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11950	●						
11951	●			11962	●		
11952	●			11963	●		
11953	●			11964	●		
11954	●			11965	●		
11955	●			11966	●		
11956	●			11968	●		
		11957	●			11969	●
		11960	●			11971	●

## D

105/4 Ultra Vap LH  
131/3 Ultra Vap LH

Speziell geeignet für G01 Baustähle <1000 N/mm<sup>2</sup>, G03 Einsatzstähle <1000 N/mm<sup>2</sup>, G05 Vergütungsstähle <1000 N/mm<sup>2</sup>, G08 Werkzeugstähle, G13 Automatenstähle, G14 Stahlguss <1000 N/mm<sup>2</sup>

## F

105/4 Ultra Vap LH  
131/3 Ultra Vap LH


















Spécialement conçu pour G01 aciers de construction <1000 N/mm<sup>2</sup>, G03 aciers de cémentation <1000 N/mm<sup>2</sup>, G05 aciers d'amélioration <1000 N/mm<sup>2</sup>, G08 aciers à outils, G13 aciers de décolletage, G14 aciers moulés <1000 N/mm<sup>2</sup>

## E

105/4 Ultra Vap LH  
131/3 Ultra Vap LH

Specific suitable for G01 structural steels <1000 N/mm<sup>2</sup>, G03 case hardening steels <1000 N/mm<sup>2</sup>, G05 heat treatable steels <1000 N/mm<sup>2</sup>, G08 carbon tool steels, G13 free-cutting steels, G14 cast steels <1000 N/mm<sup>2</sup>

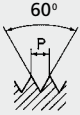
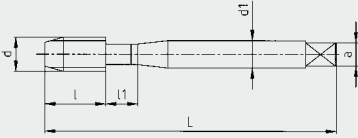
# Inhaltsverzeichnis / Table des matières / Table of contents

				MF DIN 371/374		Seite Page	
•	•					50	
		•	•			50	
•	•					52	
		•	•			52	
•	•					54	
		•	•			54	
•	•					55	
		•	•			55	
•	•	•	•			56	
				<b>MF DIN 2181</b>			
•	•	•	•		Hand Tap	101/1 HSS-E	57
•	•	•	•			101/3 HSS-E	57
•	•	•	•			101/S HSS-E Set	57
				<b>MF DIN 371/374</b>			
•	•				Left Hand	105/4 Ultra <b>LH</b>	60
		•	•			131/3 Ultra <b>LH</b>	60
•	•					105/4 Ultra Vap <b>LH</b>	60
		•	•			131/3 Ultra Vap <b>LH</b>	60
•	•	•	•			105/3 Ultra Sub <b>Pg</b>	61

MF



# DIN 374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4 l	131/3 l	d <sub>1</sub>	a	d	P	
63	10	7.5	2.8	2.1	<b>MF 4</b>	<b>0.5</b>	3.5
70	12	7.5	3.5	2.7	<b>MF 5</b>	<b>0.5</b>	4.5
80	14	8	4.5	3.4	<b>MF 6</b>	<b>0.5</b>	5.5
80	14	8	4.5	3.4	<b>MF 6</b>	<b>0.75</b>	5.25
80	17	10	6	4.9	<b>MF 8</b>	<b>0.5</b>	7.5
80	18	10	6	4.9	<b>MF 8</b>	<b>0.75</b>	7.25
90	22	10	6	4.9	<b>MF 8</b>	<b>1</b>	7
90	17	12	7	5.5	<b>MF 10</b>	<b>0.5</b>	9.5
90	20	12	7	5.5	<b>MF 10</b>	<b>0.75</b>	9.25
90	20	12	7	5.5	<b>MF 10</b>	<b>1</b>	9
100	24	14	7	5.5	<b>MF 10</b>	<b>1.25</b>	8.8
100	22	14	9	7	<b>MF 12</b>	<b>1</b>	11
100	22	14	9	7	<b>MF 12</b>	<b>1.25</b>	10.8
100	22	14	9	7	<b>MF 12</b>	<b>1.5</b>	10.5
100	22	16	11	9	<b>MF 14</b>	<b>1</b>	13
100	22	20	11	9	<b>MF 14</b>	<b>1.5</b>	12.5
100	22	16	12	9	<b>MF 16</b>	<b>1</b>	15
100	22	20	12	9	<b>MF 16</b>	<b>1.5</b>	14.5
110	25	18	14	11	<b>MF 18</b>	<b>1</b>	17
110	25	25	14	11	<b>MF 18</b>	<b>1.5</b>	16.5
125	34	25	14	11	<b>MF 18</b>	<b>2</b>	16
125	25	25	16	12	<b>MF 20</b>	<b>1.5</b>	18.5
125	25	17	18	14.5	<b>MF 22</b>	<b>1.5</b>	20.5
140	25	20	18	14.5	<b>MF 24</b>	<b>1.5</b>	22.5
140	28	20	18	14.5	<b>MF 24</b>	<b>2</b>	22
140	28	20	18	14.5	<b>MF 25</b>	<b>1.5</b>	23.5
140	28	20	18	14.5	<b>MF 26</b>	<b>1.5</b>	24.5
140	28	22	20	16	<b>MF 27</b>	<b>1.5</b>	25.5
140	28	22	20	16	<b>MF 27</b>	<b>2</b>	25

105/4



DIN 374

ISO 2 (6H)

B/4

Art.	Stock
64170	●
64171	●
64173	●
64174	●
64175	●
64176	●
64177	●
64178	○
64179	●
64180	●
64181	●
64183	●
64184	●
64185	●
64186	○
64187	●
64188	●
64190	●
64191	●
64192	●
64193	○
64195	●
64198	●
64200	●
64201	●
64202	●
64204	●
64205	●
64206	○

131/3



DIN 374

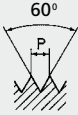
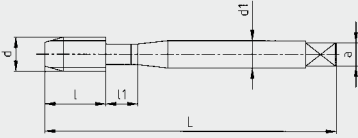
ISO 2 (6H)

C/2.5

Art.	Stock
65600	●
65601	●
65603	●
65604	●
65605	●
65606	●
65607	●
65608	○
65609	●
65610	●
65611	●
65613	●
65614	●
65615	●
65616	○
65617	●
65618	●
65620	●
65621	●
65622	●
65623	○
65625	●
65627	●
65628	●
65629	●
65630	●
65631	●
65632	●
65633	○



# DIN 374



105/4



DIN 374  
ISO 2 (6H)  
B/4

131/3



DIN 374  
ISO 2 (6H)  
C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4 l	131/3 l	d1	a	d	P	
150	28	22	22	18	<b>MF 30</b>	<b>1.5</b>	28.5
150	28	22	22	18	<b>MF 30</b>	<b>2</b>	28
150	28	22	22	18	<b>MF 32</b>	<b>1.5</b>	30.5
150	28	22	22	18	<b>MF 32</b>	<b>2</b>	30
160	30	22	25	20	<b>MF 33</b>	<b>2</b>	31
170	30	25	28	22	<b>MF 35</b>	<b>1.5</b>	33.5
170	30	25	28	22	<b>MF 36</b>	<b>1.5</b>	34.5

Art.	Stock
64209	○
64210	○
64211	○
64212	△
64214	△
64216	△
64217	○

Art.	Stock
65635	○
65636	○
65637	○
65638	△
65639	△
65640	○

**D**

**105/4 Gelbring**  
**131/3 Gelbring**

**Speziell geeignet für G20** Kupfer, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**F**

**105/4 Anneau jaune**  
**131/3 Anneau jaune**

**Spécialement conçu pour G20** cuivre, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

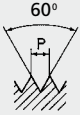
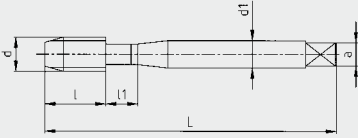
**E**

**105/4 Yellow ring**  
**131/3 Yellow ring**

**Specific suitable for G20** copper, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics



# DIN 374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4 l	131/3 l	d <sub>1</sub>	a	d	P	
63	10	7.5	2.8	2.1	<b>MF 4</b>	<b>0.5</b>	3.5
70	12	7.5	3.5	2.7	<b>MF 5</b>	<b>0.5</b>	4.5
80	14	8	4.5	3.4	<b>MF 6</b>	<b>0.5</b>	5.5
80	14	8	4.5	3.4	<b>MF 6</b>	<b>0.75</b>	5.25
80	17	10	6	4.9	<b>MF 8</b>	<b>0.5</b>	7.5
80	18	10	6	4.9	<b>MF 8</b>	<b>0.75</b>	7.25
90	22	10	6	4.9	<b>MF 8</b>	<b>1</b>	7
90	17	12	7	5.5	<b>MF 10</b>	<b>0.5</b>	9.5
90	20	12	7	5.5	<b>MF 10</b>	<b>0.75</b>	9.25
90	20	12	7	5.5	<b>MF 10</b>	<b>1</b>	9
90	24	14	7	5.5	<b>MF 10</b>	<b>1.25</b>	8.8
100	22	14	9	7	<b>MF 12</b>	<b>1</b>	11
100	22	14	9	7	<b>MF 12</b>	<b>1.25</b>	10.8
100	22	14	9	7	<b>MF 12</b>	<b>1.5</b>	10.5
100	22	16	11	9	<b>MF 14</b>	<b>1</b>	13
100	22	20	11	9	<b>MF 14</b>	<b>1.5</b>	12.5
100	22	16	12	9	<b>MF 16</b>	<b>1</b>	15
100	22	20	12	9	<b>MF 16</b>	<b>1.5</b>	14.5
110	25	18	14	11	<b>MF 18</b>	<b>1</b>	17
110	25	25	14	11	<b>MF 18</b>	<b>1.5</b>	16.5
110	34	25	14	11	<b>MF 18</b>	<b>2</b>	16
125	25	25	16	12	<b>MF 20</b>	<b>1.5</b>	18.5
125	25	17	18	14.5	<b>MF 22</b>	<b>1.5</b>	20.5
140	25	20	18	14.5	<b>MF 24</b>	<b>1.5</b>	22.5
140	28	20	18	14.5	<b>MF 24</b>	<b>2</b>	22
140	28	20	18	14.5	<b>MF 25</b>	<b>1.5</b>	23.5
140	28	18	18	14.5	<b>MF 26</b>	<b>1.5</b>	24.5

105/4



DIN 374

ISO 2 (6H)

B/4

Art.	Stock
66300	●
66301	●
66302	●
66303	●
66304	●
66305	●
66306	●
66307	○
66308	●
66309	●
66310	●
66311	●
66312	●
66313	●
66314	○
66315	●
66316	●
66318	●
66319	●
66320	●
66321	○
66323	●
66324	●
66325	●
66326	●
66327	●
66328	●

131/3



DIN 374

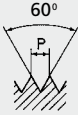
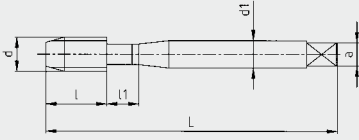
ISO 2 (6H)

C/2.5

Art.	Stock
66600	●
66601	●
66603	●
66604	●
66605	●
66606	●
66607	●
66608	○
66609	●
66610	●
66611	●
66613	●
66614	●
66615	●
66616	○
66617	●
66618	●
66620	●
66621	●
66622	●
66623	○
66625	●
66626	●
66627	●
66628	●
66629	●



# DIN 374



105/4



DIN 374

ISO 2 (6H)

B/4

Art. Stock

66329

○

66330

○

66331

○

131/3



DIN 374

ISO 2 (6H)

C/2.5

Art. Stock

66630

○

66631

○

66632

○

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4 l	131/3 l	d1	a	d	P	
150	28	22	22	18	<b>MF 30</b>	<b>1.5</b>	28.5
150	28	22	22	18	<b>MF 30</b>	<b>2</b>	28
150	28	22	22	18	<b>MF 32</b>	<b>1.5</b>	30.5



### D

#### 105/4 Schwarzring

#### 131/3 Schwarzring

Speziell geeignet für **G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>,

**G08** Werkzeugstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

### F

#### 105/4 Anneau noir

#### 131/3 Anneau noir

Spécialement conçu pour **G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G08** aciers à outils,

**G10** aciers inoxydables Cr, sulfuré, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

### E

#### 105/4 Black ring

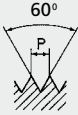
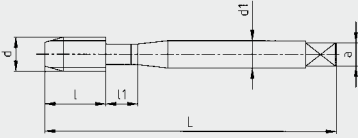
#### 131/3 Black ring

Specific suitable for **G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels,

**G10** Cr stainless steels, sulphured, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>



# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d	P	H
	l	l <sub>1</sub>	l	l <sub>1</sub>					
63	10	8	7.5	13	4.5	3.4	<b>MF 4</b>	<b>0.50</b>	3.5
70	12	11	7.5	16	6	4.9	<b>MF 5</b>	<b>0.50</b>	4.5
80	14	11	8	18	6	4.9	<b>MF 6</b>	<b>0.75</b>	5.25
80	18	13	10	21	8	6.2	<b>MF 8</b>	<b>0.75</b>	7.25
90	22	13	10	21	8	6.2	<b>MF 8</b>	<b>1.00</b>	7
90	20	15	12	22	10	8	<b>MF 10</b>	<b>0.75</b>	9.25
90	20	15	12	22	10	8	<b>MF 10</b>	<b>1.00</b>	9
100	24	15	14		10	8	<b>MF 10</b>	<b>1.25</b>	8.8
100	22		14		9	7	<b>MF 12</b>	<b>1.00</b>	11
100	22		14		9	7	<b>MF 12</b>	<b>1.25</b>	10.8
100	22		14		9	7	<b>MF 12</b>	<b>1.50</b>	10.5
100	22		16		11	9	<b>MF 14</b>	<b>1.00</b>	13
100	22		20		11	9	<b>MF 14</b>	<b>1.50</b>	12.5
100	22		16		12	9	<b>MF 16</b>	<b>1.00</b>	15
100	22		20		12	9	<b>MF 16</b>	<b>1.50</b>	14.5
110	22		18		14	11	<b>MF 18</b>	<b>1.00</b>	17
110	25		25		14	11	<b>MF 18</b>	<b>1.50</b>	16.5
125	25		18		16	12	<b>MF 20</b>	<b>1.00</b>	19
125	25		25		16	12	<b>MF 20</b>	<b>1.50</b>	18.5
125			17		18	14.5	<b>MF 22</b>	<b>1.50</b>	20.5
140			20		18	14.5	<b>MF 24</b>	<b>1.50</b>	22.5

105/4

105/4

131/3

131/3



DIN 371

DIN 374

DIN 371

DIN 374

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11871	●			84883	●		
11872	●			84891	●		
11873	●			84905	●		
11874	●			84913	●		
11875	●			84921	●		
11876	●			84948	●		
12350	●			12352	●		
		11877	●			84956	●
		11879	●			84964	●
		11880	●			84972	●
		11881	○			84980	○
		11882	●			84999	●
		11883	●			85006	●
		11884	●			85014	●
		11885	△			85022	△
		11887	●			85030	●
		11888	△			84778	△
		11889	●			84786	●
						84787	△
						84788	●

**D**

**105/4 Blauring**

**131/3 Blauring**

**Speziell geeignet für G07** Nitrierstähle, **G09** Hitzebeständige Stähle, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G31** Nickellegierungen, **G32** Titan und Titanlegierungen

**F**

**105/4 Anneau bleu**

**131/3 Anneau bleu**

**Spécialement conçu pour G07** aciers pour nitruration, **G09** aciers réfractaires, **G11** aciers inoxydables Cr, ferritique et martensitique, **G12** aciers inoxydables Cr-Ni, austénitique, **G31** alliages de nickel, **G32** titane et alliages de titane

**E**

**105/4 Blue ring**

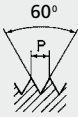
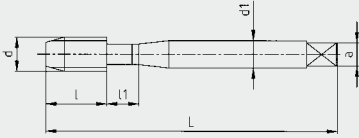
**131/3 Blue ring**

**Specific suitable for G07** nitriding steels, **G09** heat resisting steels, **G11** Cr stainless steels, ferritic and martensitic, **G12** Cr-Ni stainless steels, austenitic, **G31** alloy of nickel, **G32** titanium and alloy of titanium





# DIN 371/374



Norm / Norme / Norm  
Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d	P	
L	l	l <sub>1</sub>	l	l <sub>1</sub>					
63	10	8	7.5	13	4.5	3.4	<b>MF 4</b>	<b>0.50</b>	3.5
70	12	11	7.5	16	6	4.9	<b>MF 5</b>	<b>0.50</b>	4.5
80	14	11	8	18	6	4.9	<b>MF 6</b>	<b>0.75</b>	5.25
80	18	13	10	21	8	6.2	<b>MF 8</b>	<b>0.75</b>	7.25
90	22	13	10	21	8	6.2	<b>MF 8</b>	<b>1.00</b>	7
90	20	15	12	22	10	8	<b>MF 10</b>	<b>0.75</b>	9.25
90	20	15	12	22	10	8	<b>MF 10</b>	<b>1.00</b>	9
100	22		14		9	7	<b>MF 12</b>	<b>1.00</b>	11
100	22		14		9	7	<b>MF 12</b>	<b>1.25</b>	10.8
100	22		14		9	7	<b>MF 12</b>	<b>1.50</b>	10.5
100	22		16		11	9	<b>MF 14</b>	<b>1.00</b>	13
100	22		20		11	9	<b>MF 14</b>	<b>1.50</b>	12.5
100	22		16		12	9	<b>MF 16</b>	<b>1.00</b>	15
100	22		20		12	9	<b>MF 16</b>	<b>1.50</b>	14.5
110	22		18		14	11	<b>MF 18</b>	<b>1.00</b>	17
110	25		25		14	11	<b>MF 18</b>	<b>1.50</b>	16.5
125	25		18		16	12	<b>MF 20</b>	<b>1.00</b>	19
125	25		25		16	12	<b>MF 20</b>	<b>1.50</b>	18.5

105/4		105/4		131/3		131/3	
DIN 371 ISO 2 (6H)		DIN 374 ISO 2 (6H)		DIN 371 ISO 2 (6H)		DIN 374 ISO 2 (6H)	
B/4		B/4		C/2.5		C/2.5	
Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
85065	●			87610	●		
85073	●			87629	●		
85081	●			87637	●		
85103	●			87645	●		
85111	●			87653	●		
85138	●			87661	●		
85146	●			87688	●		
		85154	○			87696	○
		85162	○			87718	○
		85170	●			87726	●
		85189	△			87734	△
		85197	●			87742	●
		85200	△			87750	△
		85219	●			87769	●
		85227	△			87777	△
		85235	●			87785	●
		85243	△			87793	△
		85251	●			87807	●

## D

### 105/4 Rotring

### 131/3 Rotring

**Speziell geeignet für G02** Baustähle > 900

N/mm<sup>2</sup>, **G04** Einsatzstähle > 900 N/mm<sup>2</sup>,

**G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>,

**G06** Vergütungsstähle > 900 N/mm<sup>2</sup>, **G15**

Stahlguss > 900 N/mm<sup>2</sup>, **G35** HoStockeste

Feinkornbaustähle

## F

### 105/4 Anneau rouge

### 131/3 Anneau rouge

**Spécialement conçu pour G02** aciers de

construction > 900 N/mm<sup>2</sup>, **G04** aciers de cémen-

tation > 900 N/mm<sup>2</sup>, **G05** aciers d'amélioration

< 1000 N/mm<sup>2</sup>, **G06** aciers d'amélioration > 900

N/mm<sup>2</sup>, **G15** aciers moulés > 900 N/mm<sup>2</sup>,

**G35** Aciers de construction à haute résistance et

à grains fins

## E

### 105/4 Red ring

### 131/3 Red ring

**Specific suitable for G02** structural steels

> 900 N/mm<sup>2</sup>, **G04** case hardening steels

> 900 N/mm<sup>2</sup>, **G05** heat treatable steels

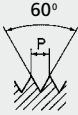
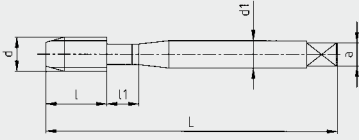
< 1000 N/mm<sup>2</sup>, **G06** heat treatable steels > 900

N/mm<sup>2</sup>, **G15** cast steels > 900 N/mm<sup>2</sup>,

**G35** High strength structural steels fine grained



# DIN 374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	d <sub>1</sub>	a	d	P	
63	10	2.8	2.1	<b>MF 4</b>	<b>0.5</b>	3.5
70	12	3.5	2.7	<b>MF 5</b>	<b>0.5</b>	4.5
80	14	4.5	3.4	<b>MF 6</b>	<b>0.75</b>	5.25
80	18	6	4.9	<b>MF 8</b>	<b>0.75</b>	7.25
90	22	6	4.9	<b>MF 8</b>	<b>1</b>	7
90	20	7	5.5	<b>MF 10</b>	<b>1</b>	9
100	22	9	7	<b>MF 12</b>	<b>1</b>	11
100	22	9	7	<b>MF 12</b>	<b>1.5</b>	10.5
100	22	11	9	<b>MF 14</b>	<b>1.5</b>	12.5
100	22	12	9	<b>MF 16</b>	<b>1.5</b>	14.5
110	25	14	11	<b>MF 18</b>	<b>1.5</b>	16.5
125	25	16	12	<b>MF 20</b>	<b>1.5</b>	18.5

105/3



DIN 374

ISO 2 (6H)

C/2.5

Art.	Stock
66700	●
66701	●
66702	●
66703	○
66704	●
66705	●
66706	○
66707	●
66708	●
66709	●
66710	○
66711	●

### D

#### 105/3 Grünring

**Speziell geeignet für G16** Temperguss,  
**G17** Gusseisen mit Kugelgraphit (Sphäroguss),  
**G18** Gusseisen mit Lamellengraphit (Grauguss),  
**G19** Gusseisen mit Vermikulargraphit,  
**G26** Aluminium-Gusslegierungen Si 0.5%–5%,  
**G27** Aluminium-Gusslegierungen Si 5%–10%,  
**G28** Aluminium-Gusslegierungen Si > 10%,  
**G30** Magnesium-Gusslegierungen, **G33** Ferro-TiC

### F

#### 105/3 Anneau vert

**Spécialement conçu pour G16** fonte malléable,  
**G17** fonte à graphite sphéroïdal, **G18** fonte à graphite lamellaire (fonte grise), **G19** fonte à graphite vermiculaire, **G26** alliages de fonte d'aluminium Si 0.5%–5%, **G27** alliages de fonte d'aluminium Si 5%–10%, **G28** alliages de fonte d'aluminium Si > 10%, **G30** alliages de fonte de magnésium, **G33** ferro-TiC

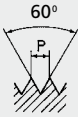
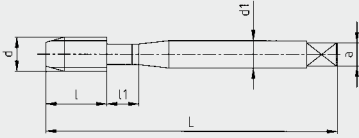
### E

#### 105/3 Green ring

**Specific suitable for G16** malleable cast iron, **G17** nodular graphite cast iron, **G18** lamellar graphite cast iron (grey cast iron), **G19** vermicular graphite cast iron, **G26** aluminium cast alloy Si 0.5%–5%, **G27** aluminium cast alloy Si 5%–10%, **G28** aluminium cast alloy Si > 10%, **G30** cast alloy of magnesium, **G33** ferro-TiC



# DIN 2181



101/1 Ultra HSS-E

101/3 Ultra HSS-E

101/S Ultra HSS-E Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 13  
ISO 2 (6H)

DIN 13  
ISO 2 (6H)

DIN 13  
ISO 2 (6H)

A/5

C/2

Stück/pce/piece

Satz/jeu/set

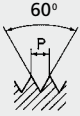
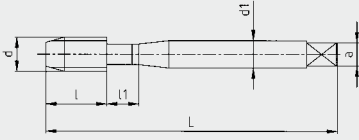
L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P	
40	9		2.8	2.10	<b>MF 2.5</b>	<b>0.35</b>	2.15
40	8	10	3.5	2.70	<b>MF 3</b>	<b>0.35</b>	2.65
45	9	13	4.5	3.4	<b>MF 4</b>	<b>0.5</b>	3.5
50	11	14	6	4.9	<b>MF 5</b>	<b>0.5</b>	4.5
56	12	15	6	4.9	<b>MF 6</b>	<b>0.5</b>	5.5
56	12	15	6	4.9	<b>MF 6</b>	<b>0.75</b>	5.25
56	14		6	4.9	<b>MF 8</b>	<b>0.5</b>	7.5
56	17		6	4.9	<b>MF 8</b>	<b>0.75</b>	7.25
63	17		6	4.9	<b>MF 8</b>	<b>1</b>	7
63	18		7	5.5	<b>MF 10</b>	<b>0.75</b>	9
63	18		7	5.5	<b>MF 10</b>	<b>1</b>	8.8
70	22		7	5.5	<b>MF 10</b>	<b>1.25</b>	11
70	18		9	7	<b>MF 12</b>	<b>1</b>	10.8
70	20		9	7	<b>MF 12</b>	<b>1.25</b>	10.5
70	20		9	7	<b>MF 12</b>	<b>1.5</b>	13
70	18		11	9	<b>MF 14</b>	<b>1</b>	12.8
70	20		11	9	<b>MF 14</b>	<b>1.25</b>	12.5
70	20		11	9	<b>MF 14</b>	<b>1.5</b>	12.5

Art.	Art.	Stock	Art.	Stock
86600	86601	○	86602	○
86627	86604	●	86605	●
86832	86607	●	86608	●
86609	86610	●	86611	●
86612	86613	●	86628	●
86615	86616	●	86617	●
86618	86619	●	86620	●
86621	86629	●	86623	●
86624	86625	●	86626	●
86636	86637	●	86638	●
86639	86640	●	86641	●
86642	86643	●	86644	●
86654	86655	●	86656	●
86645	86658	●	86659	●
86660	86661	●	86662	●
86663	86664	○	86646	○
86666	86667	●	86668	●
86669	86670	●	86671	●





# DIN 2181



101/1 Ultra  
HSS-E

101/3 Ultra  
HSS-E

101/S Ultra HSS-E  
Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 13

DIN 13

DIN 13

ISO 2 (6H)

ISO 2 (6H)

ISO 2 (6H)

A/5

C/2

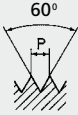
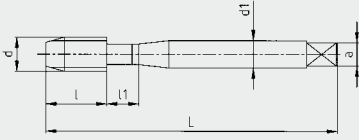
Stück/pce/piece

Satz/jeu/set

L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P		Stück/pce/piece			Satz/jeu/set	
								Art.	Art.	Stock	Art.	Stock
70	18		12	9	<b>MF 16</b>	<b>1</b>	15	86678	86679	○	86680	●
70	20		12	9	<b>MF 16</b>	<b>1.5</b>	14.5	86684	86682	●	86683	●
80	18		14	11	<b>MF 18</b>	<b>1.5</b>	16.5	86687	86688	●	86689	●
80	18		16	12	<b>MF 20</b>	<b>1</b>	19	86693	86694	●	86695	●
80	22		16	12	<b>MF 20</b>	<b>1.5</b>	18.5	86696	86697	●	86698	●
80	22		16	12	<b>MF 20</b>	<b>2</b>	18	86699	86700	●	86701	●
80	18		18	14.5	<b>MF 22</b>	<b>1.5</b>	20.5	86705	86706	●	86707	●
90	18		18	14.5	<b>MF 24</b>	<b>1</b>	23	86712	86713	△	86714	●
90	22		18	14.5	<b>MF 24</b>	<b>1.5</b>	22.5	86715	86716	●	86717	●
90	22		18	14.5	<b>MF 24</b>	<b>2</b>	22	86718	86719	●	86720	●
90	22		18	14.5	<b>MF 25</b>	<b>1.5</b>	23.5	86724	86725	○	86726	●
90	22		18	14.5	<b>MF 26</b>	<b>1.5</b>	24.5	86730	86731	○	86732	●
90	22		20	16	<b>MF 27</b>	<b>1.5</b>	25.5	86741	86742	○	86743	●
90	22		20	16	<b>MF 27</b>	<b>2</b>	25	86744	86745	○	86747	●
90	22		20	16	<b>MF 28</b>	<b>1.5</b>	26.5	86751	86752	○	86753	●
90	22		22	18	<b>MF 30</b>	<b>1.5</b>	28.5	86763	86764	○	86765	●



# DIN 2181



101/1 Ultra HSS-E

101/3 Ultra HSS-E

101/S Ultra HSS-E Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 13  
ISO 2 (6H)

DIN 13  
ISO 2 (6H)

DIN 13  
ISO 2 (6H)

A/5

C/2

Stück/pce/piece

Satz/jeu/set

L	l	l <sub>1</sub>	d <sub>1</sub>	a	d	P		Art.	Art.	Stock	Art.	Stock
90	22		22	18	<b>MF 30</b>	<b>2</b>	28	86766	86767	○	86768	○
90	22		22	18	<b>MF 32</b>	<b>1.5</b>	30.5	86832	86833	○	86834	○
100	25		25	20	<b>MF 33</b>	<b>1.5</b>	31.5	86773	86774	△	86775	○
100	25		25	20	<b>MF 33</b>	<b>2</b>	31	86776	86777	○	86778	○
100	25		28	22	<b>MF 35</b>	<b>1.5</b>	33.5	86779	86780	△	86781	○
125	30		28	22	<b>MF 36</b>	<b>2</b>	34	86790	86791	△	86792	○
100	25		28	22	<b>MF 38</b>	<b>1.5</b>	36.5	86793	86794	△	86795	○
110	25		32	24	<b>MF 40</b>	<b>1.5</b>	38.5	86801	86802	○	86803	○
110	25		32	24	<b>MF 42</b>	<b>1.5</b>	40.5	86807	86808	○	86809	○
110	25		36	29	<b>MF 45</b>	<b>1.5</b>	43.5	86813	86814	△	86815	○
125	30		36	29	<b>MF 45</b>	<b>2</b>	43	86816	86817	△	86818	○
140	25		36	29	<b>MF 48</b>	<b>1.5</b>	46.5	86820	86821	△	86822	○
140	30		36	29	<b>MF 48</b>	<b>2</b>	46	86823	86824	△	86825	○
140	25		36	29	<b>MF 50</b>	<b>1.5</b>	48.5	86826	86827	○	86828	○
140	30		36	29	<b>MF 50</b>	<b>2</b>	48	86829	86830	△	86831	○

**D**

## 101/S Ultra

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze

**F**

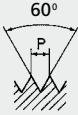
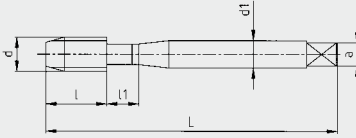
## 101/S Ultra

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc

**E**

## 101/S Ultra

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G24** phosphor bronze

**MF****DIN 374****LH**105/4 Ultra  
LH HSS-E131/3 Ultra  
LH HSS-E105/4 Ultra  
Vap LH HSS-E131/3 Ultra  
Vap LH HSS-E

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance

DIN 374  
ISO 2 (6H)DIN 374  
ISO 2 (6H)DIN 374  
ISO 2 (6H)DIN 374  
ISO 2 (6H)

B/4

B/4

C/2.5

C/2.5

L	105/4		131/3		d <sub>1</sub>	a	d	P		Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
	l	l	l	l													
90	22	10	6	4.9	<b>MF 8</b>	<b>1</b>	7	11895	●	11905	●	11918	●	11928	●		
90	20	12	7	5.5	<b>MF 10</b>	<b>1</b>	9	11896	●	11906	●	11919	●	11929	●		
100	22	14	9	7	<b>MF 12</b>	<b>1</b>	11			11907	○			11930	○		
100	22	14	9	7	<b>MF 12</b>	<b>1.5</b>	10.5	11899	●	11909	●	11922	●	11931	●		
100	22	20	11	9	<b>MF 14</b>	<b>1.5</b>	12.5	11900	●	11910	●	11923	●	11933	●		
100	22	20	12	9	<b>MF 16</b>	<b>1.5</b>	14.5	11901	●	11911	●	11925	○	11934	○		
110	25	22	14	11	<b>MF 18</b>	<b>1.5</b>	16.5			11912	○			11935	○		
125	25	22	16	12	<b>MF 20</b>	<b>1.5</b>	18.5			11913	●			11936	○		

**D****105/4 Ultra LH**  
**131/3 Ultra LH**

**Speziell geeignet für G21** Hartmessing (Ms58, kurzspanend), **G22** Weichmessing (Ms63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

**105/4 Ultra Vap LH**  
**131/3 Ultra Vap LH**

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>

**F****105/4 Ultra LH**  
**131/3 Ultra LH**

**Spécialement conçu pour G21** laiton dur (Ms58, copeaux courts), **G22** laiton tendre (Ms63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

**105/4 Ultra Vap LH**  
**131/3 Ultra Vap LH**

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>

**E****105/4 Ultra LH**  
**131/3 Ultra LH**

**Specific suitable for G21** hard brass (Ms58, short chipping), **G22** soft brass (Ms63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

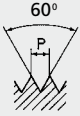
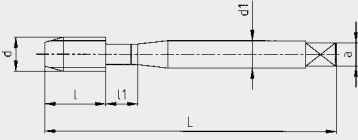
**Goese also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>

**105/4 Ultra Vap LH**  
**131/3 Ultra Vap LH**

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>



# DIN EN 60423



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	d <sub>1</sub>	a	d	P	
90	20	6	4.9	<b>MF 8</b>	<b>1.00</b>	7
90	20	7	5.5	<b>MF 10</b>	<b>1.00</b>	9
100	22	9	7	<b>MF 12</b>	<b>1.50</b>	10.5
100	22	12	9	<b>MF 16</b>	<b>1.50</b>	14.5
125	25	16	12	<b>MF 20</b>	<b>1.50</b>	18.5
140	28	18	14.5	<b>MF 25</b>	<b>1.50</b>	23.5
150	28	22	18	<b>MF 32</b>	<b>1.50</b>	30.5
170	30	32	24	<b>MF 40</b>	<b>1.50</b>	38.5
190	32	36	29	<b>MF 50</b>	<b>1.50</b>	48.5
275	38	50	39	<b>MF 63</b>	<b>1.50</b>	61.5

## 105/3 Ultra Sub Pg HSS-E



DIN 374

ISO 3 (7H)

C/2.5

Art.	Stock
84718	△
84720	△
84701	△
84702	△
84703	△
84704	△
84705	△
84706	△
84707	△
84708	△

## 105/4 Ultra Sub Pg HSS-E



DIN 374

ISO 3 (7H)

B/4

Art.	Stock
84722	●
84723	●
84709	●
84710	●
84711	●
84712	●
84713	●
84714	●
84715	○
84716	○

### Richtwert / Valeur indicative / Standard value

Pg 7 = MF 12 x 1.5

Pg 16 = MF 20 x 1.5 (\*25 X 1.5)

Pg 42 = MF 50 x 1.5 (\*63 X 1.5)

\*bei maximalem Kabeldurchmesser

Pg 8 = MF 12 x 1.5 (\*16 x 1.5)

Pg 21 = MF 25 x 1.5 (\*32 X 1.5)

Pg 48 = MF 63 x 1.5

avec un diamètre de câble maximal

Pg 11 = MF 16 x 1.5

Pg 29 = MF 32 x 1.5 (\*40 X 1.5)

with the maximum diameter of cable

Pg 13.5 = MF 20 x 1.5

Pg 36 = MF 40 x 1.5 (\*50 X 1.5)

**D**

### 105/3 Ultra Sub Pg

Für langspanend max 1 x D

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G19** Gusseisen mit Vermikulargraphit, **G21** Hartmessing (Ms 58 kurzspanend),

**Geht auch für G03, G05, G13, G16, G17, G18, G25, G26, G27 und G28**

Siehe Seite 9

### 105/4 Ultra Sub Pg

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

**F**

### 105/3 Ultra Sub Pg

Pour copeaux longs max 1 x D

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G19** fonte à graphite vermiculaire, **G21** laiton dur (Ms 58, copeaux courts)

**Conçu aussi pour G03, G05, G13, G16, G17, G18, G25, G26, G27 et G28**

Voir page 9

### 105/4 Ultra Sub Pg

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

**E**

### 105/3 Ultra Sub Pg

For long chips max 1 x D

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G14** cast steels <1000 N/mm<sup>2</sup>, **G19** vermicular graphite cast iron, **G21** hard brass (Ms 58, short chipping)

**Goes also for G03, G05, G13, G16, G17, G18, G25, G26, G27 and G28**

See page 9

### 105/4 Ultra Sub Pg








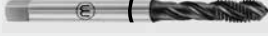






















**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermo-plastic compounds/synthetics

**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>





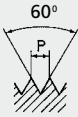
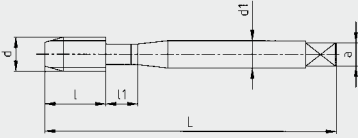
# Inhaltsverzeichnis / Table des matières / Table of contents

				<b>UNC DIN 371/376</b>		Seite Page
•	•				105/4	64
		•	•		131/3	64
•	•				105/4	65
		•	•		131/3	65
•	•				105/4	66
		•	•		131/3	66
•	•				105/4	67
		•	•		131/3	67
•	•	•	•		105/4 Ultra <b>EG</b>	 68
					131/3 Ultra <b>EG</b>	 68
				<b>UNF DIN 371/374</b>		
•	•				105/4	69
		•	•		131/3	69
•	•				105/4	70
		•	•		131/3	70
•	•				105/4	71
		•	•		131/3	71
•	•				105/4	72
		•	•		131/3	72
•	•				105/4 Ultra <b>EG</b>	 73
		•	•		131/3 Ultra <b>EG</b>	 73
				<b>UNJF DIN 371/374</b>		
•	•				105/4 Aero	74
		•	•		130/3 Aero	74

UNC...



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
45	9		9		2.8	2.1	2.184	<b>2 - 56 UNC</b>	1.8
50	9		9		2.8	2.1	2.515	<b>3 - 48 UNC</b>	2
56	11	9	7	9	3.5	2.7	2.845	<b>4 - 40 UNC</b>	2.3
56	11	9	7	9	3.5	2.7	3.175	<b>5 - 40 UNC</b>	2.6
56	13	10	8	10	4	3	3.505	<b>6 - 32 UNC</b>	2.7
63	13	11	8	11	4.5	3.4	4.166	<b>8 - 32 UNC</b>	3.4
70	16	13	9	13	6	4.9	4.826	<b>10 - 24 UNC</b>	3.8
80	19	14	13	17	7	5.5	6.35	<b>1/4 - 20 UNC</b>	5.1
90	22	15	15	19	8	6.2	7.938	<b>5/16 - 18 UNC</b>	6.5
100	24	15	16	21	10	8	9.525	<b>3/8 - 16 UNC</b>	7.9
100	24		18		8	6.2	11.112	<b>7/16 - 14 UNC</b>	9.3
110	29		20		9	7	12.7	<b>1/2 - 13 UNC</b>	10.7
110	32		22		12	9	15.875	<b>5/8 - 11 UNC</b>	13.5
125	34		25		14	11	19.05	<b>3/4 - 10 UNC</b>	16.5
140	34		28		18	14.5	22.225	<b>7/8 - 9 UNC</b>	19.3
160	38		31		18	14.5	25.4	<b>1 - 8 UNC</b>	22.25

105/4

105/4

131/3

131/3



DIN 371

DIN 376

DIN 371

DIN 376

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
68601	●			68650	●		
68602	○			68651	○		
68603	●			68652	●		
68604	○			68653	○		
68605	●			68654	●		
68606	●			68655	●		
68607	●			68656	●		
68609	●			68658	●		
68610	●			68659	●		
68611	●			68660	●		
		68612	●			68661	●
		68613	●			68662	●
		68615	●			68664	●
		68616	●			68665	●
		68617	●			68666	●
		68618	●			68667	●

**D**

**105/4 Gelbring**  
**131/3 Gelbring**

**Speziell geeignet für G20 Kupfer, G21 Hartmessing (Ms 58, kurzspanend), G22 Weichmessing (Ms 63, langspanend), G23 Rotguss, G24 Guss-Zinnbronze, G25 Aluminium-Knetlegierungen, G29 Magnesium-Knetlegierungen, G34 Thermoplaste Kunststoffe**

**F**

**105/4 Anneau jaune**  
**131/3 Anneau jaune**

**Spécialement conçu pour G20 cuivre, G21 laiton dur (Ms 58, copeaux courts), G22 laiton tendre (Ms 63, copeaux longs), G23 laiton rouge, G24 bronze au zinc, G25 alliages corroyés d'aluminium, G29 alliages corroyés de magnésium, G34 matières thermoplastiques**

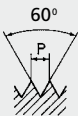
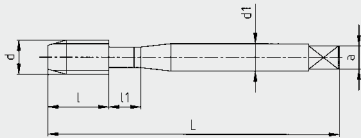
**E**

**105/4 Yellow ring**  
**131/3 Yellow ring**

**Specific suitable for G20 copper, G21 hard brass (Ms 58, short chipping), G22 soft brass (Ms 63, long chipping), G23 red brass, G24 phosphor bronze, G25 wrought alloy of aluminium, G29 wrought alloy of magnesium, G34 thermoplastic compounds/synthetics**



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
45	9		9		2.8	2.1	2.184	<b>2 - 56 UNC</b>	1.8
50	9		9		2.8	2.1	2.515	<b>3 - 48 UNC</b>	2
56	11	9	7	9	3.5	2.7	2.845	<b>4 - 40 UNC</b>	2.3
56	11	9	7	9	3.5	2.7	3.175	<b>5 - 40 UNC</b>	2.6
56	13	10	8	10	4	3	3.505	<b>6 - 32 UNC</b>	2.7
63	13	11	8	11	4.5	3.4	4.166	<b>8 - 32 UNC</b>	3.4
70	16	13	11	13	6	4.9	4.826	<b>10 - 24 UNC</b>	3.8
80	19	14	13	17	7	5.5	6.35	<b>1/4 - 20 UNC</b>	5.1
90	22	15	15	19	8	6.2	7.938	<b>5/16 - 18 UNC</b>	6.5
100	24	15	16	21	10	8	9.525	<b>3/8 - 16 UNC</b>	7.9
100	24		18		8	6.2	11.112	<b>7/16 - 14 UNC</b>	9.3
110	29		20		9	7	12.7	<b>1/2 - 13 UNC</b>	10.7
110	32		22		12	9	15.875	<b>5/8 - 11 UNC</b>	13.5
125	34		25		14	11	19.05	<b>3/4 - 10 UNC</b>	16.5
140	34		28		18	14.5	22.225	<b>7/8 - 9 UNC</b>	19.3
160	38		30		18	14.5	25.4	<b>1 - 8 UNC</b>	22.25

105/4

105/4

131/3

131/3



DIN 371

DIN 376

DIN 371

DIN 376

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
69611	●			69650	●		
69612	△			69651	△		
69613	●			69652	●		
69614	○			69653	○		
69615	●			69654	●		
69616	●			69655	●		
69617	●			69656	●		
69619	●			69658	●		
69620	●			69659	●		
69621	●			69660	●		
		69622	●			69661	●
		69623	●			69662	●
		69625	●			69664	●
		69626	●			69665	●
		69627	○			69666	○
		69628	●			69667	●

**D**

### 105/4 Schwarzring

### 131/3 Schwarzring

Speziell geeignet für G01 Baustähle < 1000 N/mm<sup>2</sup>, G03 Einsatzstähle < 1000 N/mm<sup>2</sup>,

G08 Werkzeugstähle, G10 Rostfreie Cr-Stähle, geschwefelt, G13 Automatenstähle, G14 Stahlguss < 1000 N/mm<sup>2</sup>

**F**

### 105/4 Anneau noir

### 131/3 Anneau noir

Spécialement conçu pour G01 aciers de construction < 1000 N/mm<sup>2</sup>, G03 aciers de cémentation < 1000 N/mm<sup>2</sup>, G08 aciers à outils, G10 aciers inoxydables Cr, sulfuré, G13 aciers de décolletage, G14 aciers moulés < 1000 N/mm<sup>2</sup>

**E**

### 105/4 Black ring

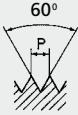
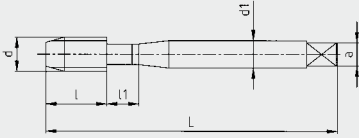
### 131/3 Black ring

Specific suitable for G01 structural steels < 1000 N/mm<sup>2</sup>, G03 case hardening steels < 1000 N/mm<sup>2</sup>, G08 carbon tool steels, G10 Cr stainless steels, sulphured, G13 free-cutting steels, G14 cast steels < 1000 N/mm<sup>2</sup>





# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
	l	l <sub>1</sub>	l	l <sub>1</sub>					
45	9		9		2.8	2.1	2.184	<b>2 - 56 UNC</b>	1.8
56	11	9	7	7	3.5	2.7	2.845	<b>4 - 40 UNC</b>	2.3
56	13	10	8	10	4	3	3.505	<b>6 - 32 UNC</b>	2.7
63	13	11	8	11	4.5	3.4	4.166	<b>8 - 32 UNC</b>	3.4
70	16	13	11	13	6	4.9	4.826	<b>10 - 24 UNC</b>	3.8
80	19	14	13	17	7	5.5	6.350	<b>1/4 - 20 UNC</b>	5.1
90	22	15	15	19	8	6.2	7.938	<b>5/16 - 18 UNC</b>	6.5
100	24		16	21	10	8	9.525	<b>3/8 - 16 UNC</b>	7.9
100	24		18		8	6.2	11.113	<b>7/16 - 14 UNC</b>	9.3
110	29		20		9	7	12.700	<b>1/2 - 13 UNC</b>	10.7
110	32		22		12	9	15.875	<b>5/8 - 11 UNC</b>	13.5
125	34		25		14	11	19.050	<b>3/4 - 10 UNC</b>	16.5
140	34		28		18	14.5	22.225	<b>7/8 - 9 UNC</b>	19.3
160	38		30		18	14.5	25.400	<b>1 - 8 UNC</b>	22.25

105/4

105/4

131/3

131/3



DIN 371

DIN 376

DIN 371

DIN 376

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11674	●			86290	●		
11676	●			86304	●		
11678	●			86312	●		
11679	●			86320	●		
11682	●			86339	●		
				86347	●		
11684	●			86355	●		
						86363	●
		11686	●			86371	●
		11688	●			86398	●
		11689	●			86401	●
						86428	○
						86436	●

## D

**105/4 Blauring**

**131/3 Blauring**

**Speziell geeignet für G07** Nitrierstähle, **G09** Hitzebeständige Stähle, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G31** Nickellegierungen, **G32** Titan und Titanlegierungen

## F

**105/4 Anneau bleu**

**131/3 Anneau bleu**

**Spécialement conçu pour G07** aciers pour nitruration, **G09** aciers réfractaires, **G11** aciers inoxydables Cr, ferritique et martensitique, **G12** aciers inoxydables Cr-Ni, austénitique, **G31** alliages de nickel, **G32** titane et alliages de titane

## E

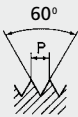
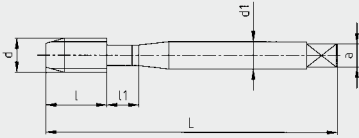
**105/4 Blue ring**

**131/3 Blue ring**

**Specific suitable for G07** nitriding steels, **G09** heat resisting steels, **G11** Cr stainless steels, ferritic and martensitic, **G12** Cr-Ni stainless steels, austenitic, **G31** alloy of nickel, **G32** titanium and alloy of titanium



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
45	9		9		2.8	2.1	2.184	<b>2 - 56 UNC</b>	1.8
56	11	9	7	7	3.5	2.7	2.845	<b>4 - 40 UNC</b>	2.3
56	13	10	8	10	4	3	3.505	<b>6 - 32 UNC</b>	2.7
63	13	11	8	11	4.5	3.4	4.166	<b>8 - 32 UNC</b>	3.4
70	16	13	11	13	6	4.9	4.826	<b>10 - 24 UNC</b>	3.8
80	19	14	13	17	7	5.5	6.350	<b>1/4 - 20 UNC</b>	5.1
90	22	15	15	19	8	6.2	7.938	<b>5/16 - 18 UNC</b>	6.5
100	24		16	21	10	8	9.525	<b>3/8 - 16 UNC</b>	7.9
100	24		18		8	6.2	11.113	<b>7/16 - 14 UNC</b>	9.3
110	29		20		9	7	12.700	<b>1/2 - 13 UNC</b>	10.7
110	32		22		12	9	15.875	<b>5/8 - 11 UNC</b>	13.5
125	34		25		14	11	19.050	<b>3/4 - 10 UNC</b>	16.5
140	34		28		18	14.5	22.225	<b>7/8 - 9 UNC</b>	19.3
160	38		30		18	14.5	25.400	<b>1 - 8 UNC</b>	22.25

105/4

105/4

131/3

131/3



DIN 371

DIN 376

DIN 371

DIN 376

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
85839	○			86452	○		
85847	○			86460	○		
85855	●			86479	●		
85863	●			86487	●		
85871	●			86495	●		
85898	●			86509	●		
85901	○			86517	○		
85928	●			86525	●		
		85936	○			86533	○
		85944	●			86541	●
		85952	●			86568	●
		85960	●			86576	●
						86584	△
						86592	●



## D

**105/4 Rotring**

**131/3 Rotring**

**Speziell geeignet für G02** Baustähle > 900

N/mm<sup>2</sup>, **G04** Einsatzstähle > 900 N/mm<sup>2</sup>,

**G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>,

**G06** Vergütungsstähle > 900 N/mm<sup>2</sup>, **G15**

Stahlguss > 900 N/mm<sup>2</sup>, **G35** HoStockeste

Feinkornbaustähle

## F

**105/4 Anneau rouge**

**131/3 Anneau rouge**

**Spécialement conçu pour G02** aciers de

construction > 900 N/mm<sup>2</sup>, **G04** aciers de cémenta-

tion > 900 N/mm<sup>2</sup>, **G05** aciers d'amélioration

< 1000 N/mm<sup>2</sup>, **G06** aciers d'amélioration > 900

N/mm<sup>2</sup>, **G15** aciers moulés > 900 N/mm<sup>2</sup>,

**G35** Aciers de construction à haute résistance et à grains fins

## E

**105/4 Red ring**

**131/3 Red ring**

**Specific suitable for G02** structural steels

> 900 N/mm<sup>2</sup>, **G04** case hardening steels

> 900 N/mm<sup>2</sup>, **G05** heat treatable steels

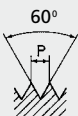
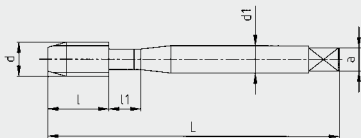
< 1000 N/mm<sup>2</sup>, **G06** heat treatable steels > 900

N/mm<sup>2</sup>, **G15** cast steels > 900 N/mm<sup>2</sup>,

**G35** High strength structural steels fine grained



## DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
	l	l <sub>1</sub>	l	l <sub>1</sub>					
63	13	8	7	13	4.5	3.4	3.67	<b>4 - 40 UNC</b>	3.1
70	14	10	8	15	6	4.9	4.536	<b>6 - 32 UNC</b>	3.8
80	16	12	8	16	6	4.9	5.197	<b>8 - 32 UNC</b>	4.4
80	17	13	10	19	7	5.5	6.2	<b>10 - 24 UNC</b>	5.2
90	20	15	14	24	8	6.2	8.001	<b>1/4 - 20 UNC</b>	6.7
100	22	17	16	25	10	8	9.771	<b>5/16 - 18 UNC</b>	8.4
110	22	-	16	-	9	7	11.587	<b>3/8 - 16 UNC</b>	10
110	26	-	20	-	11	9	13.47	<b>7/16 - 14 UNC</b>	11.6
110	27	-	22	-	12	9	15.237	<b>1/2 - 13 UNC</b>	13.3
110	26	-	22	-	14	11	17.038	<b>9/16 - 12 UNC</b>	14.9
125	30	-	25	-	14	11	18.875	<b>5/8 - 11 UNC</b>	16.5
140	32	-	27	-	18	14.5	22.349	<b>3/4 - 10 UNC</b>	19.75

105/4 Ultra  
EG HSS-E



DIN 371

-2B

B/4

105/4 Ultra  
EG HSS-E



DIN 376

-2B

B/4

131/3 Ultra  
EG HSS-E



DIN 371

-2B

C/2.5

131/3 Ultra  
EG HSS-E



DIN 376

-2B

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11715	○			11730	○		
11716	○			11731	○		
				11732	○		
11717	○			11733	○		
11718	○			11734	○		
11719	○			11735	○		
11720	○			11736	○		
		11721	△			11737	△
		11722	○			11739	○
		11723	△			11740	△
		11724	△			11741	△
		11725	△			11742	△

### D

**105/4 Ultra EG**  
**131/3 Ultra EG**

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>,

**G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

Geht auch für **G07, G10, G11, G12, G16, G17, G18, G19, G23, G26, G27, G28** und **G30**

Siehe Seite 9

### F

**105/4 Ultra EG**  
**131/3 Ultra EG**

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cimentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

Conçu aussi pour **G07, G10, G11, G12, G16, G17, G18, G19, G23, G26, G27, G28** et **G30**

Voir page 9

### E

**105/4 Ultra EG**  
**131/3 Ultra EG**

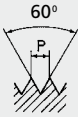
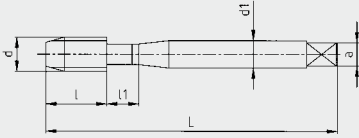
**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

Goese also for **G07, G10, G11, G12, G16, G17, G18, G19, G23, G26, G27, G28** and **G30**

See page 9



# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d1	a	d Nom.	d P <sup>(TP)</sup>	
	l	l1	l	l1					
56	11	7	10	3.5	2.7	3.175	<b>5 - 44 UNF</b>	2.60	
56	13	8	11	4	3	3.505	<b>6 - 40 UNF</b>	2.9	
63	13	8	13	4.5	3.4	4.166	<b>8 - 36 UNF</b>	3.5	
70	16	9	16	6	4.9	4.826	<b>10 - 32 UNF</b>	4.00	
80	16	9	17	6	4.9	5.486	<b>12 - 28 UNF</b>	4.6	
80	19	10	20	7	5.5	6.350	<b>1/4 - 28 UNF</b>	5.4	
90	22	11	24	8	6.2	7.938	<b>5/16 - 24 UNF</b>	6.9	
100	24	13	25	10	8	9.525	<b>3/8 - 24 UNF</b>	8.4	
100	22	13		8	6.2	11.112	<b>7/16 - 20 UNF</b>	9.9	
100	22	15		9	7	12.700	<b>1/2 - 20 UNF</b>	11.5	
100	22	17		12	9	15.875	<b>5/8 - 18 UNF</b>	14.5	
125	29	20		14	11	19.050	<b>3/4 - 16 UNF</b>	17.4	

105/4

105/4

131/3

131/3



DIN 371

DIN 374

DIN 371

DIN 374

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
71751	○			71800	○		
71752	●			71801	●		
71753	●			71802	●		
71754	●			71803	●		
71755	●			71804	●		
71756	●			71805	●		
71757	●			71806	●		
71758	●			71807	●		
		71759	●			71808	●
		71760	●			71809	●
						71811	●
						71812	●

UNC...

## D

**105/4 Gelbring**

**131/3 Gelbring**

**Speziell geeignet für G20 Kupfer, G21 Hartmessing (Ms 58, kurzspanend), G22 Weichmessing (Ms 63, langspanend), G23 Rotguss, G24 Guss-Zinnbronze, G25 Aluminium-Knetlegierungen, G29 Magnesium-Knetlegierungen, G34 Thermoplaste Kunststoff**

## F

**105/4 Anneau jaune**

**131/3 Anneau jaune**

**Spécialement conçu pour G20 cuivre, G21 laiton dur (Ms 58, copeaux courts), G22 laiton tendre (Ms 63, copeaux longs), G23 laiton rouge, G24 bronze au zinc, G25 alliages corroyés d'aluminium, G29 alliages corroyés de magnésium, G34 matières thermoplastiques**

## E

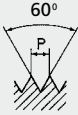
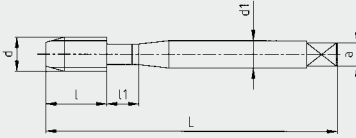
**105/4 Yellow ring**

**131/3 Yellow ring**

**Specific suitable for G20 copper, G21 hard brass (Ms 58, short chipping), G22 soft brass (Ms 63, long chipping), G23 red brass, G24 phosphor bronze, G25 wrought alloy of aluminium, G29 wrought alloy of magnesium, G34 thermoplastic compounds/synthetics**



# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d1	a	d Nom.	d P <sup>(TP)</sup>	
	l	l1	l	l1					
56	11	7	10	3.5	2.7	3.175	<b>5 - 44 UNF</b>	2.60	
56	13	8	11	4	3	3.505	<b>6 - 40 UNF</b>	2.9	
63	13	8	13	4.5	3.4	4.166	<b>8 - 36 UNF</b>	3.5	
70	16	9	16	6	4.9	4.826	<b>10 - 32 UNF</b>	4.00	
80	16	9	17	6	4.9	5.486	<b>12 - 28 UNF</b>	4.6	
80	19	10	20	7	5.5	6.350	<b>1/4 - 28 UNF</b>	5.4	
90	22	11	24	8	6.2	7.938	<b>5/16 - 24 UNF</b>	6.9	
100	24	13	25	10	8	9.525	<b>3/8 - 24 UNF</b>	8.4	
100	22	13		8	6.2	11.112	<b>7/16 - 20 UNF</b>	9.9	
100	22	15		9	7	12.700	<b>1/2 - 20 UNF</b>	11.5	
100	22	17		12	9	15.875	<b>5/8 - 18 UNF</b>	14.5	
125	29	20		14	11	19.050	<b>3/4 - 16 UNF</b>	17.4	

105/4

105/4

131/3

131/3



DIN 371

DIN 374

DIN 371

DIN 374

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
71902	△			71951	△		
71903	△			71952	△		
71904	●			71953	●		
71905	○			71954	○		
71906	●			71955	●		
71907	○			71956	○		
71908	●			71957	●		
		71909	○			71958	○
		71910	●			71959	●
		71912	△			71961	△
		71913	△			71962	△

**D**

**105/4 Schwarzing**

**131/3 Schwarzing**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>,

**G08** Werkzeugstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

**F**

**105/4 Anneau noir**

**131/3 Anneau noir**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G10** aciers inoxydables Cr, sulfuré, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

**E**

**105/4 Black ring**

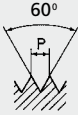
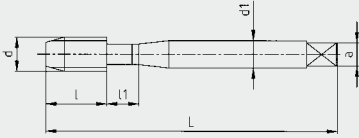
**131/3 Black ring**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G10** Cr stainless steels, sulphured, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>





# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4 l	131/3 l	l <sub>1</sub>	d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	
40	8			2.5	2.1	1.524	<b>0 - 80 UNF</b>	1.2
40	8			2.5	2.1	1.854	<b>1 - 72 UNF</b>	1.5
45	9	9		2.8	2.1	2.184	<b>2 - 64 UNF</b>	1.8
70	16	9	16	6	4.9	4.826	<b>10 - 32 UNF</b>	4
80	19	10	20	7	5.5	6.350	<b>1/4 - 28 UNF</b>	5.4
90	22	11	24	8	6.2	7.938	<b>5/16 - 24 UNF</b>	6.9
100	24	13	25	10	8	9.525	<b>3/8 - 24 UNF</b>	8.4
100	22	13		8	6.2	11.112	<b>7/16 - 20 UNF</b>	9.9
100	22	15		9	7	12.700	<b>1/2 - 20 UNF</b>	11.5
100	22	17		12	9	15.875	<b>5/8 - 18 UNF</b>	14.5
125	29	20		14	11	19.050	<b>3/4 - 16 UNF</b>	17.4
140	34	22		18	14.5	22.225	<b>7/8 - 14 UNF</b>	20.4
140	34	24		18	14.5	25.400	<b>1 - 12 UNF</b>	23.25

105/4

105/4

131/3

131/3



DIN 371

DIN 374

DIN 371

DIN 374

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11976	○						
11977	○						
11978	●						
11985	●			87173	●		
11987	●			87203	●		
11988	○			87211	●		
11989	●			87238	●		
						87246	○
		11992	●			87254	●
		11993	○			87270	●
		11994	○			87289	●
						87297	○
						87300	○

UNC...

## D

**105/4 Blauring**  
**131/3 Blauring**

**Speziell geeignet für G07** Nitrierstähle, **G09** Hitzebeständige Stähle, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G31** Nickellegierungen, **G32** Titan und Titanlegierungen

## F

**105/4 Anneau bleu**  
**131/3 Anneau bleu**

**Spécialement conçu pour G07** aciers pour nitruration, **G09** aciers réfractaires, **G11** aciers inoxydables Cr, ferritique et martensitique, **G12** aciers inoxydables Cr-Ni, austénitique, **G31** alliages de nickel, **G32** titane et alliages de titane

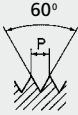
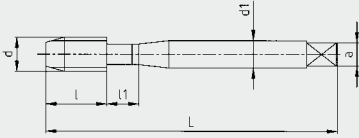
## E

**105/4 Blue ring**  
**131/3 Blue ring**

**Specific suitable for G07** nitriding steels, **G09** heat resisting steels, **G11** Cr stainless steels, ferritic and martensitic, **G12** Cr-Ni stainless steels, austenitic, **G31** alloy of nickel, **G32** titanium and alloy of titanium



# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	l1	d1	a	d Nom.	d P <sup>(TP)</sup>	
40	8		2.5	2.1	1.524	<b>0 - 80 UNF</b>	1.2
40	8		2.5	2.1	1.854	<b>1 - 72 UNF</b>	1.5
45	9	9	2.8	2.1	2.184	<b>2 - 64 UNF</b>	1.8
70	16	9	6	4.9	4.826	<b>10 - 32 UNF</b>	4
80	19	10	7	5.5	6.350	<b>1/4 - 28 UNF</b>	5.4
90	22	11	8	6.2	7.938	<b>5/16 - 24 UNF</b>	6.9
100	24	13	25	10	8	<b>3/8 - 24 UNF</b>	8.4
100	22	13	8	6.2	11.112	<b>7/16 - 20 UNF</b>	9.9
100	22	15	9	7	12.700	<b>1/2 - 20 UNF</b>	11.5
100	22	17	12	9	15.875	<b>5/8 - 18 UNF</b>	14.5
125	29	20	14	11	19.050	<b>3/4 - 16 UNF</b>	17.4
140	34	22	18	14.5	22.225	<b>7/8 - 14 UNF</b>	20.4
140	34	24	18	14.5	25.400	<b>1 - 12 UNF</b>	23.25

105/4

105/4

131/3

131/3



DIN 371

DIN 374

DIN 371

DIN 374

-2B

-2B

-2B

-2B

B/4

B/4

C/2.5

C/2.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
68995	○						
68996	○						
68997	●						
69001	●			69281	●		
69002	●			69282	●		
69003	○			69283	●		
69004	●			69284	●		
		69005	○			69285	○
		69006	●			69286	●
		69007	○			69287	●
		69008	○			69288	●
						69289	○
						69300	○

**D**

**105/4 Rotring**

**131/3 Rotring**

**Speziell geeignet für G02** Baustähle > 900

N/mm<sup>2</sup>, **G04** Einsatzstähle > 900 N/mm<sup>2</sup>,

**G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>,

**G06** Vergütungsstähle > 900 N/mm<sup>2</sup>, **G15**

Stahlguss > 900 N/mm<sup>2</sup>, **G35** HoStockeste

Feinkornbaustähle

**F**

**105/4 Anneau rouge**

**131/3 Anneau rouge**

**Spécialement conçu pour G02** aciers de

construction > 900 N/mm<sup>2</sup>, **G04** aciers de cémenta-

tion > 900 N/mm<sup>2</sup>, **G05** aciers d'amélioration

< 1000 N/mm<sup>2</sup>, **G06** aciers d'amélioration > 900

N/mm<sup>2</sup>, **G15** aciers moulés > 900 N/mm<sup>2</sup>,

**G35** Aciers de construction à haute résistance et

à grains fins

**E**

**105/4 Red ring**

**131/3 Red ring**

**Specific suitable for G02** structural steels

> 900 N/mm<sup>2</sup>, **G04** case hardening steels

> 900 N/mm<sup>2</sup>, **G05** heat treatable steels

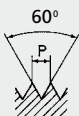
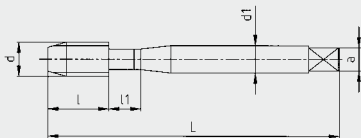
< 1000 N/mm<sup>2</sup>, **G06** heat treatable steels > 900

N/mm<sup>2</sup>, **G15** cast steels > 900 N/mm<sup>2</sup>,

**G35** High strength structural steels fine grained



## DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



105/4 Ultra EG  
HSS-E



DIN 371  
-2B mod.

B/4

105/4 Ultra EG  
HSS-E



DIN 374  
-2B mod.

B/4

131/3 Ultra EG  
HSS-E



DIN 371  
-2B mod.

C/2.5

131/3 Ultra EG  
HSS-E



DIN 374  
-2B mod.

C/2.5

L	105/4		131/3		d <sub>1</sub>	a	d Nom.	d P <sup>(TP)</sup>	mm
	l	l <sub>1</sub>	l	l <sub>1</sub>					
56	9	8	7	13	4	3	3.533	<b>4 - 48 UNF</b>	3
70	11	10	8	15	6	4.9	4.331	<b>6 - 40 UNF</b>	3.7
80	13	12	8	16	6	4.9	5.083	<b>8 - 36 UNF</b>	4.4
80	13	13	8	19	6	4.9	5.857	<b>10 - 32 UNF</b>	5.1
90	17	15	10	24	8	6.2	7.529	<b>1/4 - 28 UNF</b>	6.6
90	18	17	10	25	10	8	9.312	<b>5/16 - 24 UNF</b>	8.25
100	18	26	11	33	8	6.2	10.899	<b>3/8 - 24 UNF</b>	9.8
100	22	-	13	-	9	7	12.764	<b>7/16 - 20 UNF</b>	11.5
100	22	-	15	-	11	9	14.351	<b>1/2 - 20 UNF</b>	13.1
100	22	-	15	-	12	9	16.121	<b>9/16 - 18 UNF</b>	14.7
110	25	-	17	-	14	11	17.709	<b>5/8 - 18 UNF</b>	16.25
125	25	-	17	-	16	12	21.112	<b>3/4 - 16 UNF</b>	19.5

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
11251	△			11264	△		
11252	△			12330	△		
11253	○			12331	○		
11254	○			12332	○		
11255	△			12333	△		
		11256	○			11275	○
		11257	△			12334	△
		11259	○			11277	○
		11260	△			12336	△
		11261	△			11279	△
		11262	△				

### D

**105/4 Ultra EG**  
**131/3 Ultra EG**

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

### F

**105/4 Ultra EG**  
**131/3 Ultra EG**

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

### E

**105/4 Ultra EG**  
**131/3 Ultra EG**

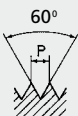
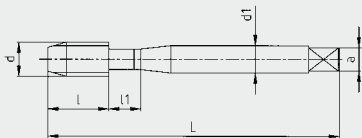
**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>

UNC...



# DIN 371/374



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		130/3		d1	a	d Nom.	d P <sup>(TP)</sup>	mm
	l	l1	l	l1					
63	16	8			4.5	3.4	4.166	<b>8 - 36 UNJF</b>	3.55
70	16	9			6	4.9	4.826	<b>10 - 32 UNJF</b>	4.15
80	19	10			7	5.5	6.35	<b>1/4 - 28 UNJF</b>	5.55
90	22	11	13		8	6.2	7.938	<b>5/16 - 24 UNJF</b>	7
100	24	13	15	10	8	6.2	9.525	<b>3/8 - 24 UNJF</b>	8.6
100	22	13			8	6.2	11.112	<b>7/16 - 20 UNJF</b>	10
100	22	15			9	7	12.7	<b>1/2 - 20 UNJF</b>	11.5
100	22	17			11	9	14.288	<b>9/16 - 18 UNJF</b>	13

105/4 Aero  
PM



105/4 Aero  
PM



130/3 Aero  
PM



130/3 Aero  
PM



DIN 371

-3BX

B/4-4.5

DIN 374

-3BX

B/4-4.5

DIN 371

-3BX

C/2.5-3

DIN 374

-3BX

C/2.5-3

Art.	Stock	Art.	Stock	Art.	Stock	Art.	Stock
12034	●			12043	●		
12036	●			12044	●		
12037	○			12045	○		
12038	●					12046	●
		12039	△			12047	△
		12040	●			12048	●
		12042	○				

**D**

**105/4 Aero**  
**130/3 Aero**

**Speziell geeignet für G09** Hitzebeständige Stähle, **G31** Nickellegierungen

**Geht auch für** Werkstoffe mit Zugfestigkeit 900–1400 N/mm<sup>2</sup>

**F**

**105/4 Aero**  
**130/3 Aero**

**Spécialement conçu pour G09** aciers réfractaires, **G31** alliages de nickel

**Conçu aussi pour** des matériaux avec une résistance de 900–1400 N/mm<sup>2</sup>

















**E**

**105/4 Aero**  
**130/3 Aero**

**Specific suitable for G09** heat resisting steels, **G31** alloy of nickel

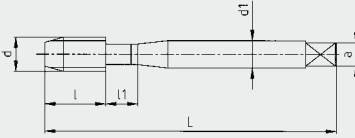
**Goes also for** materials with strength of extension of 900–1400 N/mm<sup>2</sup>

# Inhaltsverzeichnis / Table des matières / Table of contents

							Seite Page
<b>G DIN 5156</b>							
•	•					105/4	76
		•	•			131/3	76
•	•	•	•			105/3	76
•	•					105/4	77
		•	•			131/3	77
•	•					105/4	78
		•	•			131/3	78
•	•					105/4	79
		•	•			131/3	79
<b>G DIN 5157</b>							
•	•	•	•			101/1 HSS-E	80
•	•	•	•	Hand Tap		101/3 HSS-E	80
•	•	•	•			101/S HSS-E Set	80
<b>W DIN 371/376</b>							
•	•					105/4 Ultra	81
		•	•			131/3 Ultra	81



## DIN 5156



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d Nom.	d P <sup>(TR)</sup>	28	11.6	15	19	20.75	24.5	28	30	35	39.5	45	51	57	
	l	l1	l	d1																a
90	20	12	7	5.5	9.728	<b>G 1/8</b>	<b>28</b>	8.7												
100	22	16	11	9	13.157	<b>G 1/4</b>	<b>19</b>	11.6												
100	22	16	12	9	16.662	<b>G 3/8</b>	<b>19</b>	15												
125	25	22	16	12	20.955	<b>G 1/2</b>	<b>14</b>	19												
125	25	22	18	14.5	22.911	<b>G 5/8</b>	<b>14</b>	20.75												
140	28	24	20	16	26.441	<b>G 3/4</b>	<b>14</b>	24.5												
150	28	24	22	18	30.201	<b>G 7/8</b>	<b>14</b>	28												
160	30	27	25	20	33.294	<b>G 1</b>	<b>11</b>	30												
170	30	27	28	22	37.897	<b>G 1 1/8</b>	<b>11</b>	35												
170	30	27	32	24	41.910	<b>G 1 1/4</b>	<b>11</b>	39.5												
190	32	27	36	29	47.803	<b>G 1 1/2</b>	<b>11</b>	45												
190	32	30	40	32	53.826	<b>G 1 3/4</b>	<b>11</b>	51												
220	40	30	45	35	59.614	<b>G 2</b>	<b>11</b>	57												

105/4



DIN 5156

B/4

Art.	Stock
51242	●
51244	●
51245	●
51246	●
51247	○
51248	●
51249	●
51250	○
51251	○
51252	△
51253	△
51243	△

131/3



DIN 5156

C/2.5

Art.	Stock
51260	●
51261	●
51262	●
51263	●
51264	○
51265	●
51266	○
51267	●
51268	○
51269	○
51270	△
51271	△
51272	△

105/3



DIN 5156

C/2.5

Art.	Stock
51500	●
51501	●
51502	●
51503	●
51504	△
51505	○
51506	△
51507	○

### D

#### 105/4 Gelbring 131/3 Gelbring

**Speziell geeignet für G20** Kupfer, **G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

#### 105/3 Grünring

**Speziell geeignet für G16** Temperguss, **G17** Gusseisen mit Kugelgraphit (Sphäroguss), **G18** Gusseisen mit Lamellengraphit (Grauguss), **G19** Gusseisen mit Vermikulargraphit, **G26** Aluminium-Gusslegierungen Si 0.5%–5%, **G27** Aluminium-Gusslegierungen Si 5%–10%, **G28** Aluminium-Gusslegierungen Si > 10%, **G30** Magnesium-Gusslegierungen, **G33** Ferro-Tic

### F

#### 105/4 Anneau jaune 131/3 Anneau jaune

**Spécialement conçu pour G20** cuivre, **G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

#### 105/3 Anneau vert

**Spécialement conçu pour G16** fonte malléable, **G17** fonte à graphite sphéroïdal, **G18** fonte à graphite lamellaire (fonte grise), **G19** fonte à graphite vermiculaire, **G26** alliages de fonte d'aluminium Si 0.5%–5%, **G27** alliages de fonte d'aluminium Si 5%–10%, **G28** alliages de fonte d'aluminium Si > 10%, **G30** alliages de fonte de magnésium, **G33** ferro-Tic

### E

#### 105/4 Yellow ring 131/3 Yellow ring

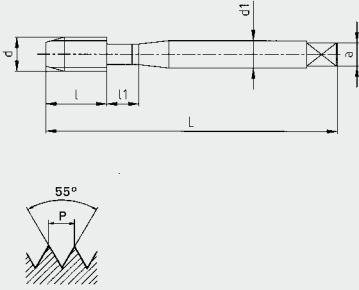
**Specific suitable for G20** copper, **G21** hard brass (Ms 58, short chipping), **G22** soft brass (Ms 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

#### 105/3 Green ring

**Specific suitable for G16** malleable cast iron, **G17** nodular graphite cast iron, **G18** lamellar graphite cast iron (grey cast iron), **G19** vermicular graphite cast iron, **G26** aluminium cast alloy Si 0.5%–5%, **G27** aluminium cast alloy Si 5%–10%, **G28** aluminium cast alloy Si > 10%, **G30** cast alloy of magnesium, **G33** ferro-Tic



## DIN 5156



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105		131		d Nom.	d P <sup>(TR)</sup>	mm
	l	l	d1	a			
90	20	12	7	5.5	9.728	<b>G 1/8 28</b>	8.7
100	22	16	11	9	13.157	<b>G 1/4 19</b>	11.6
100	22	16	12	9	16.662	<b>G 3/8 19</b>	15
125	25	22	16	12	20.955	<b>G 1/2 14</b>	19
125	25	22	18	14.5	22.911	<b>G 5/8 14</b>	20.75
140	28	24	20	16	26.441	<b>G 3/4 14</b>	24.5
150	28	24	22	18	30.201	<b>G 7/8 14</b>	28
160	30	27	25	20	33.294	<b>G 1 11</b>	30.5
170	30	27	28	22	37.897	<b>G 1 1/8 11</b>	35
170	30	27	32	24	41.91	<b>G 1 1/4 11</b>	39.5
190	32	27	36	29	47.803	<b>G 1 1/2 11</b>	45
190	32	30	40	32	53.746	<b>G 1 3/4 11</b>	51
220	40	30	45	35	59.614	<b>G 2 11</b>	57

105/4



DIN 5156

–

B/4

Art.	Stock
51280	●
51281	●
51282	●
51283	●
51284	○
51285	●
51286	△
51287	●
51288	○
51289	○
51290	△
51291	△
51292	△

131/3



DIN 5156

–

C/2.5

Art.	Stock
51300	●
51301	●
51302	●
51303	●
51304	○
51305	●
51307	△
51308	●
51309	△
51310	△
51311	△
51312	△
51313	△

**D**

**105/4 Schwarzring**

**131/3 Schwarzring**

**Speziell geeignet für G01** Baustähle < 1000 N/mm<sup>2</sup>, **G03** Einsatzstähle < 1000 N/mm<sup>2</sup>,

**G08** Werkzeugstähle, **G10** Rostfreie Cr-Stähle, geschwefelt, **G13** Automatenstähle, **G14** Stahlguss < 1000 N/mm<sup>2</sup>

**F**

**105/4 Anneau noir**

**131/3 Anneau noir**

**Spécialement conçu pour G01** aciers de construction < 1000 N/mm<sup>2</sup>, **G03** aciers de cémentation < 1000 N/mm<sup>2</sup>, **G08** aciers à outils, **G10** aciers inoxydables Cr, sulfuré, **G13** aciers de décolletage, **G14** aciers moulés < 1000 N/mm<sup>2</sup>

**E**

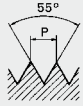
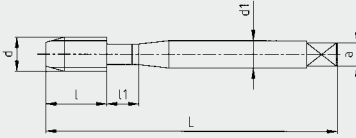
**105/4 Black ring**

**131/3 Black ring**

**Specific suitable for G01** structural steels < 1000 N/mm<sup>2</sup>, **G03** case hardening steels < 1000 N/mm<sup>2</sup>, **G08** carbon tool steels, **G10** Cr stainless steels, sulphured, **G13** free-cutting steels, **G14** cast steels < 1000 N/mm<sup>2</sup>



# DIN 5156



105/4



DIN 5156

B/4

131/3



DIN 5156

C/2.5

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d Nom.	d P <sup>(TR)</sup>	8
	l	l	d1	a			
90	20	12	7	5.5	9.728	<b>G 1/8 28</b>	8.7
100	22	16	11	9	13.157	<b>G 1/4 19</b>	11.6
100	22	16	12	9	16.662	<b>G 3/8 19</b>	15
125	25	22	16	12	20.955	<b>G 1/2 14</b>	19
140	28	24	20	16	26.441	<b>G 3/4 14</b>	24.5
160	30	27	25	20	33.294	<b>G 1 11</b>	30.5

Art.	Stock	Art.	Stock
11271	●	83224	●
11272	●	83232	●
11273	●	83240	●
11276	●	83267	●
11278	●	83283	●

## D

**105/4 Blauring**  
**131/3 Blauring**

**Speziell geeignet für G07** Nitrierstähle, **G09** Hitzebeständige Stähle, **G11** Rostfreie Cr-Stähle, ferritisch und martensitisch, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G31** Nickellegierungen, **G32** Titan und Titanlegierungen

## F

**105/4 Anneau bleu**  
**131/3 Anneau bleu**

**Spécialement conçu pour G07** aciers pour nitruration, **G09** aciers réfractaires, **G11** aciers inoxydables Cr, ferritique et martensitique, **G12** aciers inoxydables Cr-Ni, austénitique, **G31** alliages de nickel, **G32** titane et alliages de titane

## E

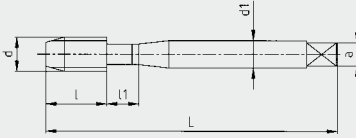
**105/4 Blue ring**  
**131/3 Blue ring**

**Specific suitable for G07** nitriding steels, **G09** heat resisting steels, **G11** Cr stainless steels, ferritic and martensitic, **G12** Cr-Ni stainless steels, austenitic, **G31** alloy of nickel, **G32** titanium and alloy of titanium





# DIN 5156



105/4



DIN 5156

B/4

Art.	Stock
63380	●
63381	●
63382	●
63383	●
63384	●
63385	●

131/3



DIN 5156

C/2.5

Art.	Stock
65480	●
65481	●
65482	●
65483	●
65484	●
65485	●

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	105/4		131/3		d Nom.	d P <sup>(TR)</sup>	28	11.6	15	19	24.5	30.5
	l	l	d1	a								
90	20	12	7	5.5	9.728	G 1/8	28	8.7				
100	22	16	11	9	13.157	G 1/4	19	11.6				
100	22	16	12	9	16.662	G 3/8	19	15				
125	25	22	16	12	20.955	G 1/2	14	19				
140	28	24	20	16	26.441	G 3/4	14	24.5				
160	30	27	25	20	33.294	G 1	11	30.5				

UNC...

## D

**105/4 Rotring**

**131/3 Rotring**

**Speziell geeignet für G02** Baustähle > 900 N/mm<sup>2</sup>, **G04** Einsatzstähle > 900 N/mm<sup>2</sup>,

**G05** Vergütungsstähle < 1000 N/mm<sup>2</sup>,

**G06** Vergütungsstähle > 900 N/mm<sup>2</sup>, **G15**

Stahlguss > 900 N/mm<sup>2</sup>, **G35** HoStockeste

Feinkornbaustähle

## F

**105/4 Anneau rouge**

**131/3 Anneau rouge**

**Spécialement conçu pour G02** aciers de

construction > 900 N/mm<sup>2</sup>, **G04** aciers de cémen-

tation > 900 N/mm<sup>2</sup>, **G05** aciers d'amélioration

< 1000 N/mm<sup>2</sup>, **G06** aciers d'amélioration > 900

N/mm<sup>2</sup>, **G15** aciers moulés > 900 N/mm<sup>2</sup>,

**G35** Aciers de construction à haute résistance et

à grains fins

## E

**105/4 Red ring**

**131/3 Red ring**

**Specific suitable for G02** structural steels

> 900 N/mm<sup>2</sup>, **G04** case hardening steels

> 900 N/mm<sup>2</sup>, **G05** heat treatable steels

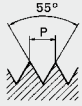
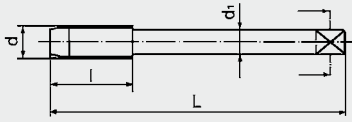
< 1000 N/mm<sup>2</sup>, **G06** heat treatable steels > 900

N/mm<sup>2</sup>, **G15** cast steels > 900 N/mm<sup>2</sup>,

**G35** High strength structural steels fine grained



# DIN 5157



101/1 Ultra  
HSS-E



101/3 Ultra  
HSS-E



101/S Ultra HSS-E  
Satz / jeu / set



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN EN ISO 228

DIN EN ISO 228

DIN EN ISO 228

A/5

C/2

L	l	d1	a	d Nom.	d	P <sup>(TPI)</sup>	mm
63	18	7	5.5	9.728	<b>G 1/8</b>	<b>28</b>	8.7
70	20	11	9	13.157	<b>G 1/4</b>	<b>19</b>	11.6
70	20	12	9	16.662	<b>G 3/8</b>	<b>19</b>	15
80	22	16	12	20.955	<b>G 1/2</b>	<b>14</b>	19
80	22	18	14.5	22.911	<b>G 5/8</b>	<b>14</b>	20.75
90	22	20	16	26.441	<b>G 3/4</b>	<b>14</b>	24.5
100	25	25	20	33.249	<b>G 1</b>	<b>11</b>	30.5

DIN EN ISO 228

DIN EN ISO 228

DIN EN ISO 228

A/5

C/2

Stück/pce/piece

Satz/jeu/set

Art.	Art.	Stock	Art.	Stock
37530	37531	●	37532	●
37533	37534	●	37535	●
37536	37537	●	37538	●
37539	37540	●	37541	●
37542	37543	○	37544	○
37545	37546	●	37547	●
37551	37552	●	37553	●

## D

### 101/S Ultra

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspannend), **G23** Rotguss, **G24** Guss-Zinnbronze

## F

### 101/S Ultra

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc

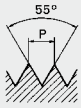
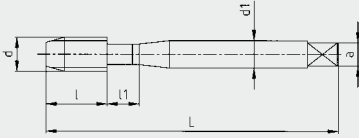
## E

### 101/S Ultra

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G24** phosphor bronze



# DIN 371/376



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance

105/4 Ultra  
HSS-E

105/4 Ultra  
HSS-E

131/3 Ultra  
HSS-E

131/3 Ultra  
HSS-E



DIN 371

DIN 376

DIN 371

DIN 376

B/4

B/4

C/2.5

C/2.5

L	105/4		131/3		d1	a	d Nom.	d P <sup>(TP)</sup>		105/4 Ultra HSS-E		131/3 Ultra HSS-E			
	l	l1	l	l1						Art.	Stock	Art.	Stock		
56	11	7	11	3.5	2.7	3.18	<b>W 1/8 - 40</b>	2.55	47070	○		61001	○		
80	17	13	17	7	5.5	6.35	<b>W 1/4 - 20</b>	5.1	47071	●		61002	●		
90	20	14	21	8	6.2	7.94	<b>W 5/16 - 18</b>	6.5	47072	○		61003	○		
100	22	16	23	10	8	9.530	<b>W 3/8 - 16</b>	7.9	47073	●		61004	●		
100	22	18		8	6.2	11.110	<b>W 7/16 - 14</b>	9.25			47074	△		61005	△
110	25	20		9	7	12.700	<b>W 1/2 - 12</b>	10.5			47075	●		61006	●
125	30	25		14	11	19.050	<b>W 3/4 - 10</b>	16.4			47076	○		61007	○
160	36	30		18	14.5	25.400	<b>W 1" - 8</b>	22			47077	○		61008	○

## D

**105/4 Ultra**  
**131/3 Ultra**

**Speziell geeignet für G21** Hartmessing (Ms 58, kurzspanend), **G22** Weichmessing (Ms 63, langspanend), **G25** Aluminium-Knetlegierungen, **G29** Magnesium-Knetlegierungen, **G34** Thermoplaste Kunststoffe

**Geht auch für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>

## F

**105/4 Ultra**  
**131/3 Ultra**

**Spécialement conçu pour G21** laiton dur (Ms 58, copeaux courts), **G22** laiton tendre (Ms 63, copeaux longs), **G25** alliages corroyés d'aluminium, **G29** alliages corroyés de magnésium, **G34** matières thermoplastiques

**Conçu aussi pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>

## E

**105/4 Ultra**  
**131/3 Ultra**

**Specific suitable for G21** hard brass (Ms 58, short chipping), **G22** soft brass (MS 63, long chipping), **G25** wrought alloy of aluminium, **G29** wrought alloy of magnesium, **G34** thermoplastic compounds/synthetics

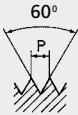
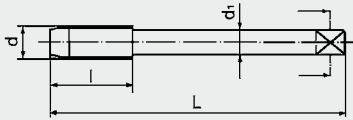
**Goes also for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>







## DIN 374



### 105/3 Ultra NPT HSS-E



DIN 374

–

C/2.5–3

### 105/3 Ultra NPTF HSS-E



DIN 374

–

C/2.5–3

Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



L	l	d <sub>1</sub>	a	d P <sup>(TP)</sup>
80	17.5	7	5.5	1/16 - 27 NPT/NPTF
90	19	8	6.2	1/8 - 27 NPT/NPTF
100	27	11	9	1/4 - 18 NPT/NPTF
110	27	14	11	3/8 - 18 NPT/NPTF
125	35	18	14.5	1/2 - 14 NPT/NPTF
140	35	20	16	3/4 - 14 NPT/NPTF
170	44.5	28	22	1 - 11 1/2 NPT/NPTF

Art.	Stock	Art.	Stock
83100	○	83291	○
83127	●	83305	●
83143	●	83313	●
83151	●	83321	●
83178	●	83348	●
83186	○	83356	○
83194	△	87920	△

Bei zähen Werkstoffen wird eine konische Vorbohrung 1:16 empfohlen.  
Pour les matières tenaces nous recommandons un pré-perçage conique de 1:16.  
For tenacious materials we recommend a taper core hole drill 1:16.

NPT = Gewinde mit Dichtmittel nach / filetages devant recevoir une garniture d'étanchéité selon / threads with dryseal material according ANSI/ASME B1.20.1

NPTF = Gewinde ohne Dichtmittel nach / filetages ne devant pas recevoir une garniture d'étanchéité selon / threads without dryseal material according ANSI/ASME B1.20.3

#### D

##### 105/3 Ultra

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>, **G20** Kupfer, **G22** Weichmessing (Ms 63, langspanend), **G23** Rotguss, **G24** Guss-Zinnbronze, **G25** Aluminium-Knetlegierungen

##### 105/3 Ultra Vap

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>

##### 103/3 Ultra Vap

**Speziell geeignet für G01** Baustähle <1000 N/mm<sup>2</sup>, **G03** Einsatzstähle <1000 N/mm<sup>2</sup>, **G05** Vergütungsstähle <1000 N/mm<sup>2</sup>, **G08** Werkzeugstähle, **G12** Rostfreie Cr-Ni Stähle, austenitisch, **G13** Automatenstähle, **G14** Stahlguss <1000 N/mm<sup>2</sup>

#### F

##### 105/3 Ultra

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>, **G20** cuivre, **G22** laiton tendre (Ms 63, copeaux longs), **G23** laiton rouge, **G24** bronze au zinc, **G25** alliages corroyés d'aluminium

##### 105/3 Ultra Vap

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>

##### 103/3 Ultra Vap

**Spécialement conçu pour G01** aciers de construction <1000 N/mm<sup>2</sup>, **G03** aciers de cémentation <1000 N/mm<sup>2</sup>, **G05** aciers d'amélioration <1000 N/mm<sup>2</sup>, **G12** aciers inoxydables Cr-Ni, austénitique, **G13** aciers de décolletage, **G14** aciers moulés <1000 N/mm<sup>2</sup>

#### E

##### 105/3 Ultra

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>, **G20** copper, **G22** soft brass (MS 63, long chipping), **G23** red brass, **G24** phosphor bronze, **G25** wrought alloy of aluminium

##### 105/3 Ultra Vap

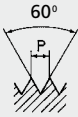
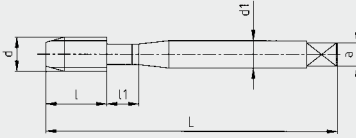
**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>

##### 103/3 Ultra Vap

**Specific suitable for G01** structural steels <1000 N/mm<sup>2</sup>, **G03** case hardening steels <1000 N/mm<sup>2</sup>, **G05** heat treatable steels <1000 N/mm<sup>2</sup>, **G12** Cr-Ni stainless steels, austenitic, **G13** free-cutting steels, **G14** cast steels <1000 N/mm<sup>2</sup>



## DIN 374



105/3 Ultra Vap  
NPT HSS-E



105/3 Ultra Vap  
NPTF HSS-E



103/3 Ultra Vap  
NPT HSS-E



Norm / Norme / Norm

Toleranzklasse / Classe de tolérance / Class of tolerance



DIN 374

DIN 374

DIN 374

C/2.5-3

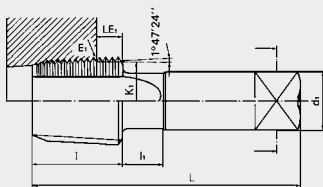
C/2.5-3

C/2.5-3

L	l	d <sub>1</sub>	a	d P <sup>(PM)</sup>
80	17.5	7	5.5	<b>1/16 - 27 NPT/NPTF</b>
90	19	8	6.2	<b>1/8 - 27 NPT/NPTF</b>
100	27	11	9	<b>1/4 - 18 NPT/NPTF</b>
110	27	14	11	<b>3/8 - 18 NPT/NPTF</b>
125	35	18	14.5	<b>1/2 - 14 NPT/NPTF</b>
140	35	20	16	<b>3/4 - 14 NPT/NPTF</b>
170	44.5	28	22	<b>1 - 11 1/2 NPT/NPTF</b>

Art.	Stock	Art.	Stock	Art.	Stock
89389	○	89397	○	87955	○
89400	●	89508	●	87963	●
89419	●	89516	●	87319	●
89427	●	89524	●	87327	●
89435	●	89532	●	87335	●
89443	○	89540	○	87343	○
89451	△	89559	△	87351	△

### Technische Daten Informations techniques Technical datas



Rohr tube nom Ø	Steigung pas pitch G/1"e	LE1	K1				Kernloch avant-trou Ø core hole Ø NPT / NPTF
			NPT		NPTF		
			mini	maxi	mini	maxi	
1/16	27	6.3	6.387	6.509	6.414	6.505	6.3
1/8	27	7.8	8.735	8.857	8.761	8.852	8.5
1/4	18	10.5	11.357	11.513	11.397	11.483	11
3/8	18	10.5	14.796	14.952	14.836	14.922	14.5
1/2	14	13	18.323	18.485	18.333	18.419	18
3/4	14	13	23.668	23.83	23.678	23.764	23
1	11 1/2	18	29.696	29.868	29.726	29.812	29
1 1/4	11 1/2	18	38.453	38.625	38.483	38.569	38
1 1/2	11 1/2	18	44.522	44.694	44.552	44.638	44
2	11 1/2	18	56.372	56.56	56.59	56.676	56

E1 = Punkt am Beginn des Innengewindes und Lage des Gewindebohrers beim fertig geschnittenen Gewinde.

Point au début du filet intérieur et position du taraud à la fin du taraudage.

Point at the beginning of the internal thread and also final position of the tap after the cutting process.



Since 1918