



**NEW: H-VH**



**H**  
*Hochfeste Werkstoffe*  
High Tensile Materials

DE-EN-ID



**THREADING SOLUTIONS**





THREADING SOLUTIONS

## VERFÜGBARKEIT DER ARTIKEL

- ID Lagerartikel
- ID Kurzfristig lieferbar
- \* ID Ab Lager lieferbar solange Vorrat

## AVAILABILITY OF THE ARTICLES

- ID Stock item
- ID Available at short notice
- \* ID Available from stock, while stock lasts

# ANWENDUNGSGRUPPEN

Beispiele für Anwendungsgruppen

Referenz: DIN

<b>15</b>	<b>Stahl legiert / vergütet</b> <b>&gt; 850 - &lt; 1150 N/mm<sup>2</sup></b>
1.3553	X82WMoCrV6-5-4
1.6580	30CrNiMo8
1.7220	34CrMo4
1.7225	42CrMo4
1.8507	34CrAlMo5

<b>16</b>	<b>Hochfester Stahl</b> <b>≤ 44 HRC</b>
1.6582	EN-GJS-1200-2
1.7225	34CrNiMo6v
1.7228	42CrMo4v
1.8515	50CrMo4v
	31CrMo12v

<b>24</b>	<b>Ferritisch, martensitisch</b> <b>&gt; 850 - &lt; 1150 N/mm<sup>2</sup></b>
1.4057	17CrNi16-2
1.4125	X105CrMo17
1.4542	X5CrNiCuNb16-4
1.4548	X5CrNiCuNb17-4-4
1.4748	X85CrMoV18-2

<b>31</b>	<b>Grauguss</b>
0.6015	GJL-150
0.6020	GJL-200
0.6025	GJL-250
0.6030	GJL-300

<b>62</b>	<b>Messing, Bronze, Rotguss (kurzspanend)</b>
2.0401	CuZn39Pb3 (Ms58)
2.0402	CuZn40Pb2 (Ms58)
2.1030	CuSn8 (Bz)
2.1096	G-CuSn5ZnPb

<b>64</b>	<b>Messing bleifrei</b>
	CuZn21Si3P (ECOBRASS®)
	CuZn35
	CuZn42

<b>82</b>	<b>Duroplaste</b>
	Bakelit
	Novopan

<b>83</b>	<b>Faserverstärkte Kunststoffe</b>
	Glasfaserverstärkte
	Thermo- und Duroplaste

<b>92</b>	<b>Rotgold</b>
4N18	
5N18	
Au585CuAg325	
Au750AgCu	
Au917Cu83	

<b>93</b>	<b>Weissgold</b>
Au750PdCu125	
Au750PdCu150	
Au585PdCu150	
Au925Pd75	

**H**



**Für hochfeste Werkstoffe**  
**> 850 - < 1'400 N/mm<sup>2</sup>**

legierte Stähle, Vergütungsstähle - hochfester Stahl;  
**Messing, Bronze, Rotguss (kurzspanend); Messing bleifrei;**  
**Duroplaste; glasfaserverstärkte Kunststoffe.**

**NEW**

**MIT NEUER SCHNEIDKANTEN-KONDITIONIERUNG UND OPTIMALER DC-"VH"-BESCHICHTUNG**



**H.20VH-4**

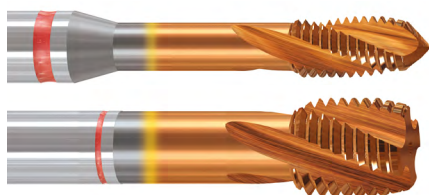
mit neuer Schneidkanten-Konditionierung und "VH"-Beschichtung; für Durchgangslöcher.

**H.52VH-3**



**H.50VH-3**

mit neuer Schneidkanten-Konditionierung und "VH"-Beschichtung, ab Ø 9.81 mm mit konisch verjüngtem Führungsgewinde für eine bessere Spanabfuhr und zum Vermeiden von Spanverklebungen; für Sacklöcher bis 1.5 x D.



**VH**  
**H**

**DC-"VH"-Verschleisschutzschicht**

für hochfeste und abrasive Werkstoffe

Diese neue Hochleistungsschicht für die Gewindeherstellung ist speziell geeignet für die DC-Gewindebohrer der Leistungsklasse "H" und garantiert ausgezeichnete Verschleissfestigkeit für höhere Standzeiten. Zum Vermeiden von Kaltschweissungen und für maximale Beständigkeit gegen abrasiven Verschleiss.

# APPLICATION GROUPS

Examples for application groups

Reference:  
AISI/ASTM/UNS

## 15 Alloy steels hard./temp. > 850 - < 1150 N/mm<sup>2</sup>

1.3553	-
1.6580	4340
1.7220	4135
1.7225	4140
1.8507	A355CLD (K23510)

## 16 High tensile alloy steels ≤ 44 HRC

EN-6JS-1200-2	
1.6582	4340
1.7225	4140
1.7228	4150
1.8515	-

## 24 Ferritic and martensitic > 850 - < 1150 N/mm<sup>2</sup>

1.4057	431
1.4125	440C
1.4542	630 (17-4PH)
1.4748	-

## 31 Cast iron

0.6015	A48-25B
0.6020	A48-30B
0.6025	A48-35B
0.6030	A48-45B

## 62 Short chip brass, phosphor bronze, gun metal

2.0401	C38500
2.0402	C37800
2.1030	C52100
2.1096	-

## 64 Lead free brass

CuZn21Si3P  
(ECOBRASS®)  
CuZn35  
CuZn42

## 82 Duroplastics

Bakelit  
Novopan

## 83 Glass fibre reinforced plastics

Glass fibre reinforced,  
Thermo and Duroplastics

## 92 Red gold

4N18  
5N18  
Au585CuAg325  
Au750AgCu  
Au917Cu83

## 93 White gold

Au750PdCu125  
Au750PdCu150  
Au585PdCu150  
Au925Pd75

# H



**For high tensile materials  
> 850 - < 1'400 N/mm<sup>2</sup>**

alloyed steels, tempered steels - high tensile alloy steels;  
**short chip brass + phosphor bronze + gun metal; lead-free brass;  
duroplastics; glass fibre reinforced plastics.**

# NEW

## WITH NEW CONDITIONING OF THE CUTTING EDGES AND OPTIMAL DC "VH"-COATING



### H.20VH-4

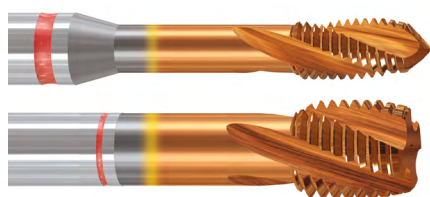
with new cutting edges conditioning and "VH" coating; for through holes.

### H.52VH-3



### H.50VH-3

with new cutting edges conditioning and "VH"-coating, from Ø 9.81 mm with conically truncated guiding thread for improved chip evacuation and to avoid chip jamming; for blind holes up to 1.5 x D.



VH  
H

### DC "VH" wear-protective coating

for high-tensile and abrasive materials

This new high-performance coating for threading is especially suitable for the DC taps of performance class "H" and guarantees excellent wear resistance for longer tool life. To avoid cold welding and for maximum resistance to abrasive wear.

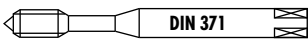
# PIKTOGRAMME — PICTOGRAPHS



Für Werkstoffgruppen gemäss **(DC)**-Anwendungstabelle  
For material groups as per **(DC)** application chart

15	
1.3553	X82WMoCrV6-5-4
1.6580	30CrNiMo8
1.7220	34CrMo4
1.7225	42CrMo4
1.8507	34CrAlMo5

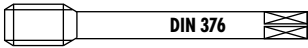
16	
EN-GIS-1200-2	
1.6582	34CrNiMo6v
1.7225	42CrMo4v
1.7228	50CrMo4v
1.8515	31CrMo12v



Verstärkter Schaft gemäss DIN 371  
Reinforced shank as per DIN 371



Lagerartikel  
Stock item



Durchfallender Schaft gemäss DIN 376  
Reduced shank as per DIN 376



Kurzfristig lieferbar  
Available at short notice



HSSE-PM  
HSSE-PM



Ab Lager lieferbar solange Vorrat  
Available from stock, while stock lasts



HSSE  
HSSE



Anzahl Spannuten (Z)  
Number of flutes (Z)



Gerade Nuten mit Schälanschnitt  
Straight flutes with spiral point



Spiralnuten mit 25° Rechtsdrall  
25° right-hand spiral flutes



Konisch verjüngtes Führungsgewinde ab Ø 9.81 mm  
Conical truncated guiding thread from Ø 9.81 mm



Durchgangsloch, langspanende Werkstoffe  
Through hole, long chipping materials



Sackloch < 1.5 x D, langspanende Werkstoffe  
Blind hole < 1.5 x D, long chipping materials



Kernlochdurchmesser  
Core hole diameter



3.5 - 5.5 Gewindegänge, Anschnitt Form B  
3.5 - 5.5 chamfered threads, lead form B



2 - 3 Gewindegänge, Anschnitt Form C  
2 - 3 chamfered threads, lead form C



Toleranzklasse ISO 2 6H  
Tolerance class ISO 2 6H



Toleranzklasse ISO 3 6G  
Tolerance class ISO 3 6G



Titanium-carbonitrid-Beschichtung  
Titanium-carbonitride coating



DC-\"VH\"-Verschleisschutzschicht für hochfeste und abrasive Werkstoffe ≤ 44 HRC  
DC \"VH\" wear-protective coating for high-tensile and abrasive materials ≤ 44 HRC



Für klassisches Gewindeschneiden  
For Classic Tapping

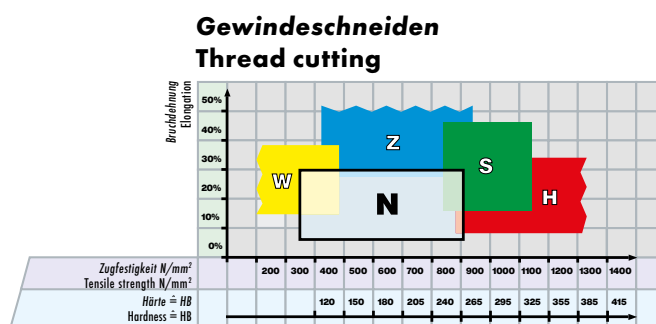


THREADING SOLUTIONS

# H | PERSEVERING THREADING



# ANWENDUNGSTABELLE – APPLICATION CHART



## DC -Anwendungsgruppen

## DC Material classification

Werkstoff-Gruppen Material groups	Werkstoffbezeichnung	Material designation	Härte Hardness (HB)	Festigkeit Tensile strength Rm (N/mm <sup>2</sup> )	Dehnung Elongation A (%)
<b>10</b> Stahl Steels	11 Automatenstahl	Free-cutting steels	< 200	< 700	< 10
	12 Baustahl, Einsatzstahl	Structural, cementation steels	< 200	< 700	< 30
	13 Kohlenstoffstahl	Carbon steels	< 300	< 1000	< 20
	14 Stahl legiert < 850 N/mm <sup>2</sup>	Alloy steels < 850 N/mm <sup>2</sup>	< 250	< 850	< 30
	15 Stahl legiert / vergütet > 850 - < 1150 N/mm <sup>2</sup>	Alloy steels hard. / temp. > 850 - < 1150 N/mm <sup>2</sup>	> 250	> 850	< 30
	16 Hochfester Stahl ≤ 44 HRC	High tensile alloy steels ≤ 44 HRC	> 250	> 850	< 12
	17 Stahl vergütet > 44 - ≤ 54 HRC	Alloy steels tempered > 44 - ≤ 54 HRC	> 410	> 1400	< 2
	18 Stahl gehärtet > 54 - ≤ 63 HRC	Alloy steels hardened > 54 - ≤ 63 HRC	> 560	> 1980	< 2
<b>20</b> Rostfreier Stahl Stainless steels	21 Rostfreier Stahl, geschwefelt	Free machining stainless steels	< 250	< 850	< 25
	22 Austenitisch	Austenitic stainless steels	< 250	< 850	> 20
	23 Ferritisch, martensitisch < 850 N/mm <sup>2</sup>	Ferritic and martensitic < 850 N/mm <sup>2</sup>	< 250	< 850	> 20
	24 Ferritisch, martensitisch > 850 - < 1150 N/mm <sup>2</sup>	Ferritic and martensitic > 850 - < 1150 N/mm <sup>2</sup>	> 250	> 850	> 15
<b>30</b> Guss Cast iron	31 Grauguss	Cast iron	< 250	< 850	< 10
	32 Kugelgraphitguss, Temporguss	Spheroidal graphite + malleable cast iron	< 250	< 850	> 10
<b>40</b> Titan Titanium	41 Reintitan	Pure titanium	< 250	< 850	> 20
	42 Titanlegierung	Titanium alloys	> 250	> 850	< 20
<b>50</b> Nickel Nickel	51 Nickellegierung 1 ≤ 850 N/mm <sup>2</sup>	Nickel alloys 1 ≤ 850 N/mm <sup>2</sup>	< 250	< 850	> 25
	52 Nickellegierung 2 > 850 - ≤ 1150 N/mm <sup>2</sup>	Nickel alloys 2 > 850 - ≤ 1150 N/mm <sup>2</sup>	> 250	> 850	< 25
	53 Nickellegierung 3 > 1150 - ≤ 1600 N/mm <sup>2</sup>	Nickel alloys 3 > 1150 - ≤ 1600 N/mm <sup>2</sup>	> 340	> 1150	< 20
<b>60</b> Kupfer Copper	61 Reinkupfer (Elektrolytkupfer)	Pure copper (electrolytic copper)	< 120	< 400	> 12
	62 Messing, Bronze, Rotguss (kurzspanend)	Short chip brass, phosphor bronze, gun metal	< 200	< 700	< 12
	63 Messing (langspanend)	Long chip brass	< 200	< 700	> 12
	64 Messing bleifrei	Lead free brass	< 220	< 700	> 15
<b>70</b> Aluminium Magnesium Aluminium Magnesium	71 Al unlegiert	Al unalloyed	< 100	< 350	> 15
	72 Al legiert Si < 1.5 %	Al alloyed Si < 1.5 %	< 150	< 500	> 15
	73 Al legiert Si > 1.5 % - < 10 %	Al alloyed Si > 1.5 % - < 10 %	< 120	< 400	< 15
	74 Al legiert Si > 10 %, Mg-Legierungen	Al alloyed Si > 10 %, Mg-alloys	< 120	< 400	< 10
<b>80</b> Kunststoff Plastic compounds	81 Thermoplaste	Thermoplastics	-	-	-
	82 Duroplaste	Duroplastics	-	-	-
	83 Faserverstärkte Kunststoffe	Glass fibre reinforced plastics	-	-	-
<b>90</b> Edelmetalle Precious metals	91 Gelbgold	Yellow gold	-	-	-
	92 Rotgold	Red gold	-	-	-
	93 Weissgold	White gold	-	-	-
	94 Silber	Silver	-	-	-

Optimal mit Schneidöl  
Optimal with cutting oil

Geeignet mit Schneidöl  
Suitable with cutting oil

Optimal mit Emulsion  
Optimal with emulsion

Geeignet mit Emulsion  
Suitable with emulsion



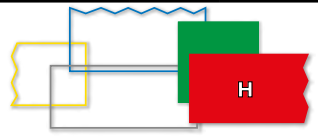






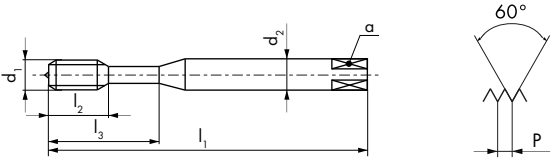





<b>H</b> Hochfeste Werkstoffe High tensile materials							
H.20	H.20TC	H.20VH	H.50	H.50TC	H.50VH	H.52VH	
Standard	Beschichtet Coated TC / VH						
11							11
12							12
13							13
14							14
15	3 - 5	6 - 12					15
16	3 - 5	3 - 5					16
17							17
18							18
21							21
22							22
23							23
24		4 - 8					24
31		20 - 30					31
32							32
41							41
42							42
51							51
52							52
53							53
61							61
62	20 - 30						62
63							63
64	16 - 24						64
71							71
72							72
73							73
74							74
81							81
82	8 - 16	16 - 24					82
83		8 - 16					83
91							91
92		12 - 16					92
93		4 - 8					93
94							94

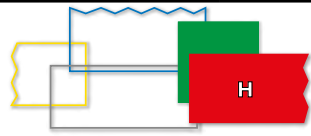





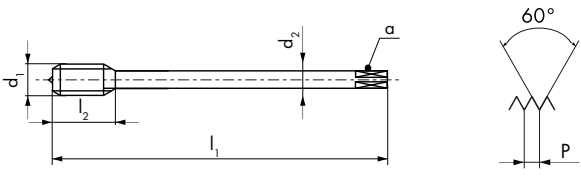
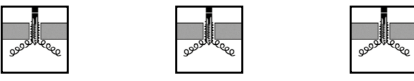




V<sub>c</sub>  
(m/min)  
< Ø 20 mm Guide Line  
Standard Beschichtet Coated  
TC / VH

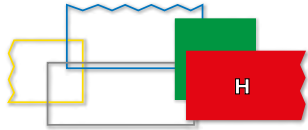
**A** Optimal mit Luft  
Optimal with air

**A** Geeignet mit Luft  
Suitable with air

Bei den oben aufgeführten Daten handelt es sich um Richtwerte.  
The indicated values are a guideline.

										H320-4	H320TC-4	H320VH-4	
<b>H320-4</b>  <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">62</span> <span style="background-color: #008000; color: white; padding: 2px;">64</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span>													
<b>H320TC-4</b>  <span style="border: 1px solid black; padding: 2px;">TiCN</span> <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #008000; color: white; padding: 2px;">92</span> <span style="background-color: #008000; color: white; padding: 2px;">93</span>													
<b>H320VH-4</b>  <span style="border: 1px solid black; padding: 2px;">VH H</span> <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #008000; color: white; padding: 2px;">92</span> <span style="background-color: #008000; color: white; padding: 2px;">93</span>													
										 <span style="border: 1px solid black; padding: 2px;">ISO 2 6H</span>	 <span style="border: 1px solid black; padding: 2px;">ISO 2 6H</span>	 <span style="border: 1px solid black; padding: 2px;">ISO 2 6H</span>	
$\emptyset d_1$ M	P mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$d_2$ mm	a mm			ID	ID	ID		
2	0.4	45	8		2.8	2.1	2	1.6	● 101206	★ 151836	● 202550		
2.2	0.45	45	9		2.8	2.1	2	1.75	● 111801		● 202551		
2.5	0.45	50	10		2.8	2.1	3	2.05	● 101207	★ 148603	● 202552		
3	0.5	56	12	18	3.5	2.7	3	2.5	● 101209	★ 111836	● 202553		
3.5	0.6	56	13	20	4	3	3	2.9	● 101210		● 202554		
4	0.7	63	14	21	4.5	3.4	3	3.3	● 101211	★ 111502	● 202555		
4.5	0.75	70	15	25	6	4.9	3	3.75	● 101212		● 202556		
5	0.8	70	15	25	6	4.9	3	4.2	● 101213	★ 111458	● 202557		
6	1	80	17	30	6	4.9	3	5	● 101215	★ 111456	● 202558		
8	1.25	90	20	35	8	6.2	3	6.8	● 101218	★ 111453	● 202559		
10	1.5	100	22	39	10	8	3	8.5	● 101205	★ 110911	● 202560		

								H420-4	H420TC-4	H420VH-4	
								<p><b>H420-4</b>  15 16 62 64 82</p> <p><b>H420TC-4</b>   15 16 24 31 82 83 92 93</p> <p><b>H420VH-4</b>   15 16 24 31 83 92 93</p>			
											
											
											
Ø d <sub>1</sub> M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID	
12	1.75	110	24	9	7	4	10.2	● 101275	★ 110912	● 202561	
14	2	110	28	11	9	4	12	● 101277	★ 145461	● 202562	
16	2	110	30	12	9	4	14	● 101279	★ 111612	● 202563	
18	2.5	125	33	14	11	4	15.5	● 101281		● 202564	
20	2.5	140	36	16	12	4	17.5	● 101284	★ 144606	● 202565	
22	2.5	140	36	18	14.5	4	19.5	● 157752		● 202566	
24	3	160	39	18	14.5	4	21	● 101286	★ 143588	● 202567	
27	3	160	42	20	16	4	24	● 101287			
30	3.5	180	45	22	18	4	26.5	● 101288			
33	3.5	180	48	25	20	4	29.5	★ 202833			
36	4	200	51	28	22	4	32	● 101289			
39	4	200	55	32	24	4	35	★ 202832			
42	4.5	200	55	32	24	4	37.5	★ 202834			

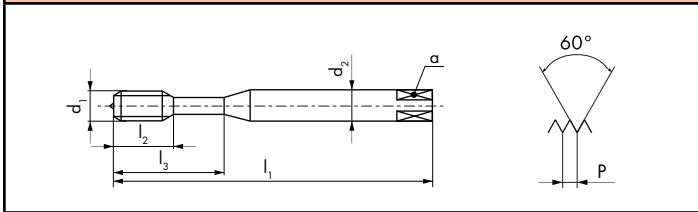


<b>H350-3</b>			15 16 62 64 82
<b>H350TC-3</b>			15 16 24 31 82 83 92 93
<b>H350VH-3</b>			15 16 24 31 83 92 93
<b>H352VH-3</b>			15 16 24 31 83 92 93

H350-3	H350TC-3	H350VH-3	H352VH-3
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< 1.5 x D	< 1.5 x D	< 1.5 x D	< 1.5 x D



2.5 x P	2.5 x P	2.5 x P	2.5 x P
ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H

Ø d <sub>1</sub> M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	d <sub>2</sub> mm	a mm		
2	0.4	45	7		2.8	2.1	2	1.6
2.5	0.45	50	9		2.8	2.1	3	2.05
3	0.5	56	5.5	18	3.5	2.7	3	2.5
3.5	0.6	56	6.5	20	4	3	3	2.9
4	0.7	63	7.5	21	4.5	3.4	3	3.3
4.5	0.75	70	9	25	6	4.9	3	3.75
5	0.8	70	9	25	6	4.9	3	4.2
6	1	80	11	30	6	4.9	3	5
8	1.25	90	12.5	35	8	6.2	3	6.8
10	1.5	100	14	39	10	8	3	8.5

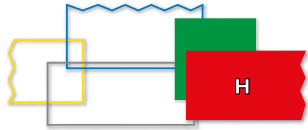
ID	ID	ID	ID
● 101238	* 146451	● 202568	
● 101239	* 144957	● 202569	
● 101242	* 111835	● 202570	
● 101243		● 202571	
● 101245	* 111607	● 202572	
● 101246		● 202573	
● 101248	* 111610	● 202574	
● 101251	* 111500	● 202575	
● 101255	* 110963	● 202576	
● 101237	* 111454		● 202577













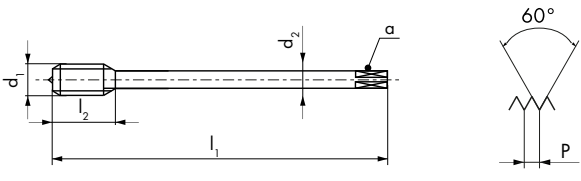




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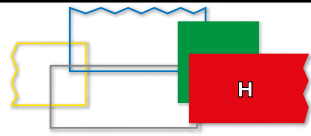








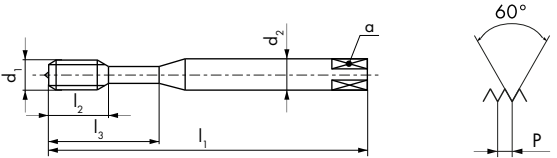








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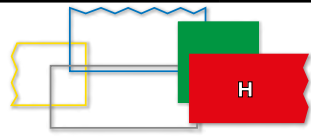








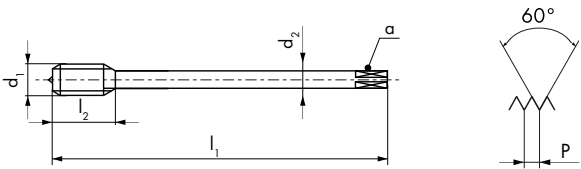








Ø d <sub>1</sub> M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	d <sub>2</sub> mm	a mm		
3	0.5	56	5.5	18	3.5	2.7	3	2.5
4	0.7	63	7.5	21	4.5	3.4	3	3.3
5	0.8	70	9	25	6	4.9	3	4.2
6	1	80	11	30	6	4.9	3	5
8	1.25	90	12.5	35	8	6.2	3	6.8
10	1.5	100	14	39	10	8	3	8.5

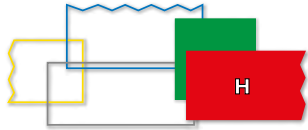
ID	6H + mm
● 101241	0.020
● 101244	0.022
● 101247	0.024
● 101250	0.026
● 101254	0.028
● 101236	0.032



								H450-3	H450TC-3	H452VH-3	
<p><b>H450-3</b></p>  											
<p><b>H450TC-3</b></p>   											
<p><b>H452VH-3</b></p>   											
								 <p>&lt; 1.5 x D</p>			
											
											
Ø d <sub>1</sub> M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID	
12	1.75	110	14	9	7	4	10.2	● 101305	★ 111501	● 202578	
14	2	110	14	11	9	4	12	● 101307	★ 146151	● 202579	
16	2	110	18	12	9	4	14	● 101309	★ 111605	● 202580	
18	2.5	125	21	14	11	4	15.5	● 101311		● 202581	
20	2.5	140	24	16	12	4	17.5	● 101313	★ 144986	● 202582	
22	2.5	140	24	18	14.5	4	19.5	● 101315		● 202583	
24	3	160	27	18	14.5	4	21	● 101318	★ 144987	● 202584	
27	3	160	27	20	16	4	24	● 101320			
30	3.5	180	30	22	18	4	26.5	● 101323			
36	4	200	36	28	22	4	32	● 101324			
42	4.5	200	40	32	24	4	37.5	● 101325			

										H320-4	H320TC-4	H320VH-4	
<b>H320-4</b>  <span style="margin-left: 20px;"> <span style="background-color: green; color: white; padding: 2px;">15</span> <span style="background-color: red; color: white; padding: 2px;">16</span> <span style="background-color: red; color: white; padding: 2px;">62</span> <span style="background-color: green; color: white; padding: 2px;">64</span> <span style="background-color: red; color: white; padding: 2px;">82</span> </span>													
<b>H320TC-4</b>   <span style="margin-left: 20px;"> <span style="background-color: green; color: white; padding: 2px;">15</span> <span style="background-color: red; color: white; padding: 2px;">16</span> <span style="background-color: green; color: white; padding: 2px;">24</span> <span style="background-color: grey; color: white; padding: 2px;">31</span> <span style="background-color: red; color: white; padding: 2px;">82</span> <span style="background-color: red; color: white; padding: 2px;">83</span>  <span style="background-color: grey; color: white; padding: 2px;">92</span> <span style="background-color: grey; color: white; padding: 2px;">93</span> </span>													
<b>H320VH-4</b>   <span style="margin-left: 20px;"> <span style="background-color: green; color: white; padding: 2px;">15</span> <span style="background-color: red; color: white; padding: 2px;">16</span> <span style="background-color: green; color: white; padding: 2px;">24</span> <span style="background-color: grey; color: white; padding: 2px;">31</span> <span style="background-color: red; color: white; padding: 2px;">83</span> <span style="background-color: grey; color: white; padding: 2px;">92</span>  <span style="background-color: grey; color: white; padding: 2px;">93</span> </span>													
										 	 	 	
$\emptyset d_1$ MF	P mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$d_2$ mm	a mm				ID	ID	ID	
6	0.75	80	17	30	6	4.9	3	5.25		● 101214	★ 196035	● 202585	
8	0.75	90	20	35	8	6.2	3	7.25		● 101216		● 202586	
8	1	90	20	35	8	6.2	3	7		● 101217	★ 196036	● 202587	
10	1	100	22	39	10	8	3	9		● 101204	★ 172963	● 202588	
10	1.25	100	22	39	10	8	3	8.8		● 175213	★ 173079	● 202589	

								H420-4	H420TC-4	H420VH-4
<b>H420-4</b>  <span style="margin-left: 100px;">15 16 62 64 82</span>										
<b>H420TC-4</b>   <span style="margin-left: 100px;">15 16 24 31 82 83</span> <span style="margin-left: 100px;">92 93</span>										
<b>H420VH-4</b>   <span style="margin-left: 100px;">15 16 24 31 83 92</span> <span style="margin-left: 100px;">93</span>										
								 	 	 
$\emptyset d_1$ MF	P mm	$l_1$ mm	$l_2$ mm	$d_2$ mm	a mm			ID	ID	ID
12	1.25	100	24	9	7	4	10.8	● 101273		● 202590
12	1.5	100	24	9	7	4	10.5	● 101274	★ 196037	● 202591
14	1.5	100	24	11	9	4	12.5	● 101276	★ 164053	● 202592
16	1.5	100	26	12	9	4	14.5	● 101278	★ 196038	● 202593
18	1.5	110	26	14	11	4	16.5	● 101280	★ 196039	● 202594
20	1.5	125	28	16	12	4	18.5	● 101282	★ 148362	● 202595
24	2	140	34	18	14.5	4	22	● 101285		● 202596

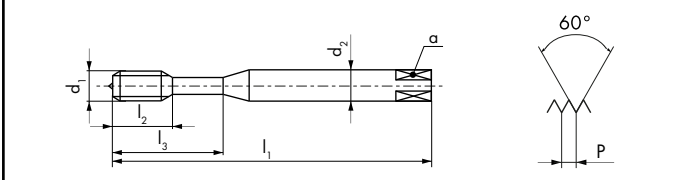


H350-3	H350TC-3	H350VH-3	H352VH-3
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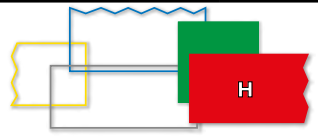

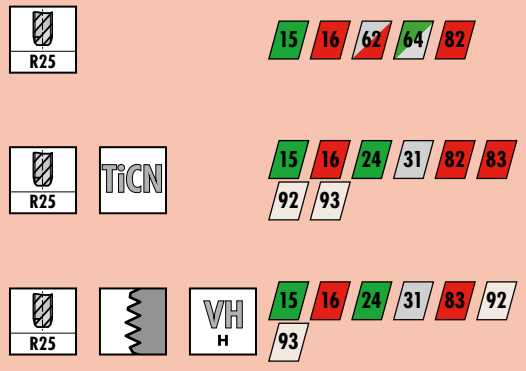

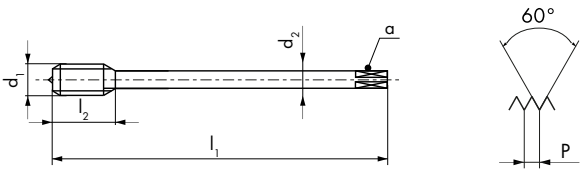
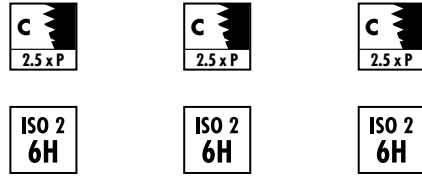




R25	R25	R25	R25
TICN		VH H	VH H


$\emptyset d_1$ MF	P mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$d_2$ mm	a mm			ID	ID	ID	ID
6	0.75	80	11	30	6	4.9	3	5.25	● 101249	★ 196033	● 202597	
8	0.75	90	12.5	35	8	6.2	3	7.25	● 101252		● 202598	
8	1	90	12.5	35	8	6.2	3	7	● 101253	★ 150356	● 202599	
10	1	100	14	39	10	8	3	9	● 101235	★ 148753		● 202600
10	1.25	100	14	39	10	8	3	8.8	● 145590	★ 196034		● 202601

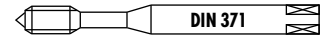




								H450-3	H450TC-3	H452VH-3	
											
											
											
Ø d <sub>1</sub> MF	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID	
12	1	100	14	9	7	4	11	● 101302		● 202602	
12	1.5	100	14	9	7	4	10.5	● 101303	★ 145561	● 202603	
14	1.5	100	14	11	9	4	12.5	● 101306	★ 184003	● 202604	
16	1.5	100	14	12	9	4	14.5	● 101308	★ 176013	● 202605	
18	1.5	110	18	14	11	4	16.5	● 101310	★ 160146	● 202606	
20	1.5	125	20	16	12	4	18.5	● 101312	★ 160147	● 202607	
22	1.5	125	20	18	14.5	4	20.5	● 101314			
24	1.5	140	22	18	14.5	4	22.5	● 101316			
24	2	140	22	18	14.5	4	22	● 101317			
27	2	140	22	20	16	4	25	● 101319			
30	1.5	150	24	22	18	4	28.5	● 101321			
30	2	150	24	22	18	4	28	● 101322			

# UNC ASME B1.1

PM



										H320-4	H320TC-4	H320VH-4		
H320-4														
H320TC-4		TiCN												
H320VH-4		VH H												
										<b>2B</b>	<b>2B</b>	<b>2B</b>		
$\emptyset$ " $d_1$ UNC	P TPI	$d_1$ mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$d_2$ mm	$a$ mm			ID	ID	ID		
2	56	2.18	45	8		2.8	2.1	2	1.75	● 101221		● 202608		
4	40	2.84	56	10	18	3.5	2.7	3	2.25	● 101223		● 202609		
6	32	3.5	56	13	20	4	3	3	2.75	● 101225	★ 196046	● 202610		
8	32	4.16	63	14	21	4.5	3.4	3	3.4	● 101226	★ 196047	● 202611		
10	24	4.82	70	15	25	6	4.9	3	3.8	● 101220	★ 196048	● 202612		
1/4	20	6.35	80	17	30	7	5.5	3	5.1	● 101219	★ 196049	● 202613		
5/16	18	7.93	90	20	35	8	6.2	3	6.5	● 101224	★ 143730	● 202614		
3/8	16	9.52	100	22	39	10	8	3	8	● 101222	★ 196050	● 202615		

# UNC ASME B1.1

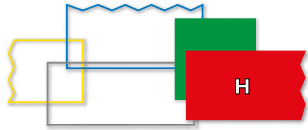
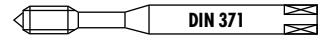
PM



										H420-4	H420TC-4	H420VH-4							
										<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>H420-4</b></p> </div> <div style="text-align: center;"> <p>15 16 62 64 82</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><b>H420TC-4</b></p> <p>TiCN</p> </div> <div style="text-align: center;"> <p>15 16 24 31 82 83 92 93</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><b>H420VH-4</b></p> <p>VH H</p> </div> <div style="text-align: center;"> <p>15 16 24 31 83 92 93</p> </div> </div>									
$\varnothing^H d_1$	P	$d_1$	$l_1$	$l_2$	$d_2$	a													
UNC	TPI	mm	mm	mm	mm	mm													
7/16	14	11.11	100	19	8	6.2	3	9.3	●	196051	★	196052	●	202616					
1/2	13	12.7	110	24	9	7	4	10.8	●	101290	★	143731	●	202617					
5/8	11	15.87	110	30	12	9	4	13.6	●	163741	★	196053	●	202618					
3/4	10	19.05	125	33	14	11	4	16.6	●	163743	★	196054	●	202619					

# UNC ASME B1.1

PM



										H350-3	H350TC-3	H350VH-3	
<p><b>H350-3</b></p> <p><b>H350TC-3</b></p> <p><b>H350VH-3</b></p>													
$\emptyset$ " d <sub>1</sub> UNC	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID	
2	56	2.18	45	8		2.8	2.1	2	1.75	● 101258		● 202620	
4	40	2.84	56	5.5	18	3.5	2.7	3	2.25	● 101260		● 202621	
6	32	3.5	56	6.5	20	4	3	3	2.75	● 101262	★ 196040	● 202622	
8	32	4.16	63	7.5	21	4.5	3.4	3	3.4	● 101263	★ 196041	● 202623	
10	24	4.82	70	9	25	6	4.9	3	3.8	● 101257	★ 196042	● 202624	
1/4	20	6.35	80	11	30	7	5.5	3	5.1	● 101256	★ 160585	● 202625	
5/16	18	7.93	90	12.5	35	8	6.2	3	6.5	● 101261	★ 160587	● 202626	
3/8	16	9.52	100	14	39	10	8	3	8	● 101259	★ 162106	● 202627	

# UNC ASME B1.1

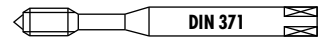
PM








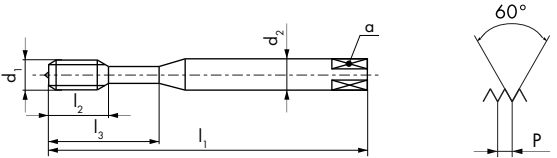
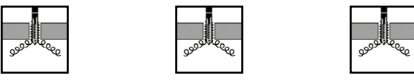






										H450-3	H450TC-3	H452VH-3	
<p><b>H450-3</b> </p> <p><b>H450TC-3</b> </p> <p><b>H452VH-3</b> </p>													
										< 1.5 x D	< 1.5 x D	< 1.5 x D	
										<b>2B</b>	<b>2B</b>	<b>2B</b>	
$\emptyset$ " d <sub>1</sub> UNC	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID		
7/16	14	11.11	100	14	8	6.2	3	9.3	● 101330	★ 196043	● 202628		
1/2	13	12.7	110	14	9	7	4	10.8	● 101326	★ 160586	● 202629		
5/8	11	15.87	110	18	12	9	4	13.6	● 101329	★ 196044	● 202630		
3/4	10	19.05	125	21	14	11	4	16.6	● 101328	★ 196045	● 202631		
1	8	25.4	160	27	18	14.5	4	22.3	● 101327		● 202632		

# UNF ASME B1.1

PM



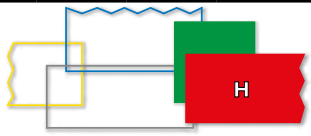






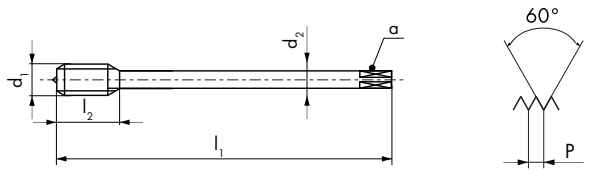
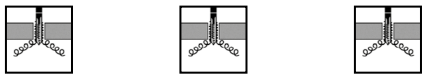
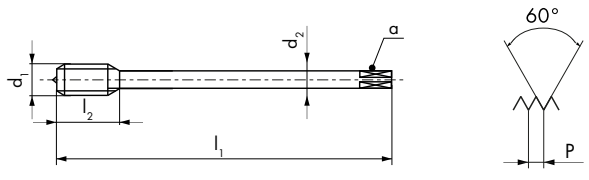

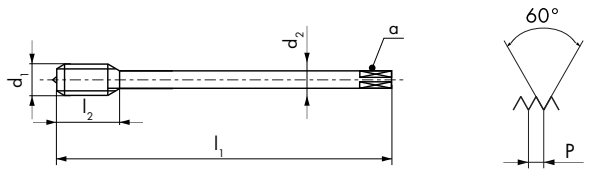



										H320-4	H320TC-4	H320VH-4							
																			
<b>H320-4</b>  <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #FF0000; color: white; padding: 2px;">62</span> <span style="background-color: #008000; color: white; padding: 2px;">64</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span>																			
<b>H320TC-4</b>   <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #000000; color: white; padding: 2px;">92</span> <span style="background-color: #000000; color: white; padding: 2px;">93</span>																			
<b>H320VH-4</b>   <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #000000; color: white; padding: 2px;">92</span> <span style="background-color: #000000; color: white; padding: 2px;">93</span>																			
																			
																			
																			
Ø" d <sub>1</sub> UNF	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	l <sub>3</sub> mm	d <sub>2</sub> mm	a mm			ID	ID	ID							
10	32	4.82	70	15	25	6	4.9	3	4.05	● 101228	★ 196060	● 202633							
1/4	28	6.35	80	17	30	7	5.5	3	5.5	● 101227	★ 142613	● 202634							
5/16	24	7.93	90	20	35	8	6.2	3	6.9	● 105139	★ 196061	● 202635							
3/8	24	9.52	100	22	39	10	8	3	8.5	● 101229	★ 196062	● 202636							

# UNF

ASME B1.1

PM

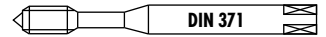


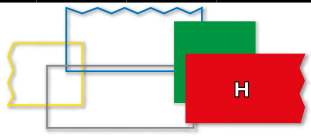





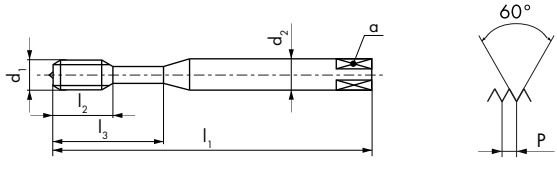












										H420-4	H420TC-4	H420VH-4	
<p><b>H420-4</b>  <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">62</span> <span style="background-color: #008000; color: white; padding: 2px;">64</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span></p> <p><b>H420TC-4</b>   <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">82</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #008000; color: white; padding: 2px;">92</span> <span style="background-color: #008000; color: white; padding: 2px;">93</span></p> <p><b>H420VH-4</b>   <span style="background-color: #008000; color: white; padding: 2px;">15</span> <span style="background-color: #FF0000; color: white; padding: 2px;">16</span> <span style="background-color: #008000; color: white; padding: 2px;">24</span> <span style="background-color: #008000; color: white; padding: 2px;">31</span> <span style="background-color: #FF0000; color: white; padding: 2px;">83</span> <span style="background-color: #008000; color: white; padding: 2px;">92</span> <span style="background-color: #008000; color: white; padding: 2px;">93</span></p>													
													
													
													
$\theta^{90}$ UNF	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm				ID	ID	ID	
7/16	20	11.11	100	19	8	6.2	3	9.8	●	147253	* 196063	● 202637	
1/2	20	12.7	100	24	9	7	4	11.4	●	101291	* 196064	● 202638	
5/8	18	15.87	100	26	12	9	4	14.5	●	101293	* 196065	● 202639	
3/4	16	19.05	125	33	14	11	4	17.5	●	101292	* 196066	● 202640	

# UNF

ASME B1.1

PM



										H350-3	H350TC-3	H350VH-3	
										<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>H350-3</b></p>  <p>15 16 62 64 82</p> </div> <div style="text-align: center;"> <p><b>H350TC-3</b></p>   <p>15 16 24 31 82 83 92 93</p> </div> <div style="text-align: center;"> <p><b>H350VH-3</b></p>   <p>15 16 24 31 83 92 93</p> </div> </div>			
													
													
$\emptyset^H d_1$ UNF	P TPI	$d_1$ mm	$l_1$ mm	$l_2$ mm	$l_3$ mm	$d_2$ mm	$a$ mm			ID	ID	ID	
10	32	4.82	70	9	25	6	4.9	3			● 101265	* 196055	● 202641
1/4	28	6.35	80	11	30	7	5.5	3			● 101264	* 146714	● 202642
5/16	24	7.93	90	12.5	35	8	6.2	3			● 101267	* 196056	● 202643
3/8	24	9.52	100	14	39	10	8	3			● 101266	* 196057	● 202644



# UNF ASME B1.1

PM



										H450-3	H450TC-3	H452VH-3	
<p><b>H450-3</b></p>													
<p><b>H450TC-3</b></p>													
<p><b>H452VH-3</b></p>													
$\emptyset$ " d <sub>1</sub> UNF	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm				ID	ID	ID	
7/16	20	11.11	100	14	8	6.2	3	9.8	●	101334	* 196058	● 202645	
1/2	20	12.7	100	14	9	7	4	11.4	●	101331	* 196059	● 202646	
5/8	18	15.87	100	14	12	9	4	14.5	●	101333	* 174297	● 202647	
3/4	16	19.05	125	18	14	11	4	17.5	●	101332	* 158882	● 202648	

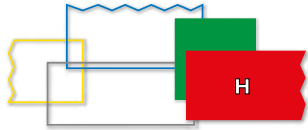
# G

## DIN EN ISO 228 (BSP)

≤ Ø 25.4 > Ø 25.4

PM

HSSE



										H450-3	H450VH-3	H452VH-3	
<p><b>H450-3</b> </p> <p><b>H450VH-3</b> </p> <p><b>H452VH-3</b> </p>													
										< 1.5 x D	< 1.5 x D	< 1.5 x D	
										2.5 x P	2.5 x P	2.5 x P	
Ø" d <sub>1</sub> G	P TPI	d <sub>1</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> mm	a mm				ID	ID	ID	
1/8	28	9.72	90	14	7	5.5	3			● 101298	● 202649		
1/4	19	13.15	100	14	11	9	4			● 101297		● 202650	
3/8	19	16.66	100	14	12	9	4			● 101301		● 202651	
1/2	14	20.95	125	20	16	12	4			● 101296		● 202652	
3/4	14	26.44	140	22	20	16	4			● 101300		● 202653	
1	11	33.24	160	26	25	20	4			● 101299		● 202654	

Certificate CH07/0649

The management system of

# DC Swiss SA

Grand rue 19  
CH - 2735 Malleray



has been assessed and certified as meeting the requirements of

## ISO 9001:2015

For the following activities

**Design, development, manufacturing, marketing,  
sales and distribution of cutting tools.  
Expertise in threading technology.**

This certificate is valid from 19 June 2021 until 18 June 2024  
and remains valid subject to satisfactory surveillance audits.

Recertification audit due 60 days prior to expiry date.

Issue 7. Certified since September 2007.

Authorised by



SGS Société Générale de Surveillance SA

Technoparkstrasse 1 8005 Zurich Switzerland

t +41 (0)44 445-16-80 f +41 (0)44 445-16-88 www.sgs.com

Page 1 of 1



# HÄRTEVERGLEICHSTABELLE — HARDNESS CHART

<b>HRC</b> <i>Rockwellhärte</i> Hardness Rockwell	<b>HB</b> <i>Brinellhärte</i> Hardness Brinell	<b>HV</b> <i>Vickershärte</i> Hardness Vickers	<b>N/mm<sup>2</sup> Mpa</b> <i>Zugfestigkeit</i> Tensile strength
25	253	266	854
26	259	273	873
27	265	279	897
28	272	286	919
29	279	294	944
30	287	302	970
31	295	310	995
32	303	318	1024
33	311	327	1052
34	320	336	1082
35	328	345	1111
36	337	355	1139
37	346	364	1168
38	354	373	1198
39	363	382	1227
40	373	392	1262
41	382	402	1296
42	392	412	1327
43	402	423	1362
44	413	434	1401
45	424	446	1442
46	436	459	1481
47	448	471	1524
48	460	484	1572
49	474	499	1625
50	488	513	1675
51	502	528	1733
52	518	545	1793
53	532	560	1845
54	549	578	1912
55	566	596	1979
56	585	615	2050
57	603	634	2121
58	621	654	2200
59		675	
60		698	
61		720	
62		746	
63		773	

Umrechnungstabelle für Härtewerte, Auszug aus ISO EN 18265; 2003 / früher DIN 50150. Gerundete Werte.  
 Conversion chart for hardness values, extract from ISO EN 18265; 2003 / formerly DIN 50150. Rounded values.

# ZOLL-MM – INCHES-MM

Ø" d <sub>1</sub>	Ø mm	TPI UN											W(BSW)	BSF	G (BSP) Rp	Ø mm	
		UNC	UNF	UNEF	4	6	8	12	16	20	28	32					
0 1/16"	1.52 1.59		80											48		28	7.72
1 2 3/32"	1.85 2.18 2.38	64 56	72 64														
3 4 5 1/8"	2.51 2.84 3.17 3.17	48 40 40	56 48 44											40		28	9.72
6 5/32"	3.50	32	40											32			
8 3/16"	3.96 4.16	32	36											24	32		
10 12	4.82 5.48	24 24	32 28	32													
7/32"	5.55												24	28		19	13.15
1/4"	6.35	20	28	32									20	26	26		
9/32"	7.14																
5/16"	7.93	18	24	32					20	28							
3/8"	9.52	16	24	32					20	28			16	20		19	16.66
7/16"	11.11	14	20	28					16				32	14	18		
1/2"	12.70	13	20	28					16				32	12	16	14	20.95
9/16"	14.28	12	18	24					16	20	28		32	12	16		
5/8"	15.87	11	18	24				12	16	20	28		32	11	14	14	22.91
11/16"	17.46			24				12	16	20	28		32	14	14		
3/4"	19.05	10	16	20				12			28	32	10	12	14	14	26.44
13/16"	20.64			20				12	16		28	32		12	11		
7/8"	22.22	9	14	20				12	16		28	32	9	11	14	14	30.20
15/16"	23.81			20				12	16		28	32					
1"	25.40	8	12	20				12	16		28	32	8	10	11	11	33.24
1 1/16"	26.99			18			8	12	16	20	28						
1 1/8"	28.57	7	12	18			8		16	20	28		7	9	11	11	37.89
1 3/16"	30.16			18			8	12	16	20	28						
1 1/4"	31.75	7	12	18			8		16	20	28		7	9	11	11	41.91
1 5/16"	33.34			18			8	12	16	20	28						
1 3/8"	34.92	6	12	18			8		16	20	28		6	8	11	11	44.32
1 7/16"	36.51			18			8	12	16	20	28						
1 1/2"	38.10	6	12	18		6	8	12	16	20	28		6	8	11	11	47.80
1 9/16"	39.69			18		6	8	12	16	20							
1 5/8"	41.28			18		6	8	12	16	20			5	8			
1 11/16"	42.86			18													
1 3/4"	44.45	5				6	8	12	16	20			5	7	11	11	53.74
1 13/16"	46.04					6	8	12	16	20							
1 7/8"	47.63					6	8	12	16	20			4 1/2				
1 15/16"	49.21					6	8	12	16	20							
2"	50.80	4 1/2											4 1/2	7	11	11	59.61
2 1/8"	53.97					6	8	12	16	20							
2 1/4"	57.15	4 1/2				6	8	12	16	20			4	6	11	11	65.71
2 3/8"	60.32					6	8	12	16	20							
2 1/2"	63.50	4				6	8	12	16	20			4	6	11	11	75.18
2 5/8"	66.67				4	6	8	12	16	20							
2 3/4"	69.85	4				6	8	12	16	20			3 1/2	6	11	11	81.53
2 7/8"	73.02				4	6	8	12	16	20							
3"	76.20	4				6	8	12	16	20			3 1/2	5	11	11	87.88
3 1/8"	79.37				4	6	8	12	16								
3 1/4"	82.55	4				6	8	12	16				3 1/4	5	11	11	93.98
3 3/8"	85.72				4	6	8	12	16								
3 1/2"	88.90	4				6	8	12	16				3 1/4	4 1/2	11	11	100.33
3 5/8"	92.07				4	6	8	12	16								
3 3/4"	95.25	4				6	8	12	16				3	4 1/2	11	11	106.68
3 7/8"	98.42				4	6	8	12	16								
4"	101.60	4				6	8	12	16				3	4 1/2	11	11	113.03

Angebotsanfrage

Versuchsergebnis

Beanstandung

**Vertretung:** \_\_\_\_\_  
**Kunde:** \_\_\_\_\_  
**Tel.- /Fax-Nr.:** \_\_\_\_\_

**Kontaktperson:** \_\_\_\_\_  
**E-Mail:** \_\_\_\_\_  
**Datum:** \_\_\_\_\_

**1. Werkzeug-Typ:** \_\_\_\_\_  
**Besonderheit:** \_\_\_\_\_

**Abmessung:** \_\_\_\_\_  
**Toleranzklasse:** \_\_\_\_\_

**2. Werkstoffgruppe:** \_\_\_\_\_

**Werkstoff-Nr.:** \_\_\_\_\_  
**Norm:** \_\_\_\_\_

**Härte:** \_\_\_\_\_ **N/mm<sup>2</sup> / HB / HRC**  
**Bruchdehnung:** \_\_\_\_\_ **%**

**3. Gewinde:**  Sackloch  Durchgangsloch

**Gewindelänge:** \_\_\_\_\_ **mm**

**Kernloch-Ø:** \_\_\_\_\_

**Tiefe:** \_\_\_\_\_ **mm**

**Aufbohrungs-Ø:** \_\_\_\_\_

**Tiefe:** \_\_\_\_\_ **mm**

**4. Schnittgeschwindigkeit (V<sub>c</sub>):** \_\_\_\_\_ **m/min**

\_\_\_\_\_ **1/min**

**Vorschub (f):** \_\_\_\_\_ **%**

**5. Maschine:** \_\_\_\_\_

**Innenkühlung**

**Arbeitsrichtung:**  horizontal

vertikal

**Synchro-Gewindeschneiden:**  Soft-Rigidfutter

**Gewindeschneidspindel:**  Längenausgleich

Spannzange

Ausklinkbar

Weldon

Rutschkupplung

Schrumpffutter

Automat. Umschaltung

**6. Schmierung:**  Emulsion

Schneidöl

Luft

MMS

**Produkt:** \_\_\_\_\_

**7. Grund des Werkzeugwechsels:**  Werkzeugverschleiss

Werkzeugbruch

Gewinde nicht korrekt (kontrolliert mit Lehre)

Zahnausbrüche im Anschnittbereich

Maschinenfehler

Zahnausbrüche im Führungsgewinde

**8. Standzeitvergleich:**

**Vergleichswerkzeug:** \_\_\_\_\_

**Resultat und Befund:** \_\_\_\_\_

**Bemerkungen:** \_\_\_\_\_  
 \_\_\_\_\_

Enquiry

Test result

Complaint

**Agency:** \_\_\_\_\_  
**Customer:** \_\_\_\_\_  
**Phone or fax:** \_\_\_\_\_

**Contact:** \_\_\_\_\_  
**E-mail:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

**1. Tool type:** \_\_\_\_\_  
**Particularity:** \_\_\_\_\_

**Thread size:** \_\_\_\_\_  
**Class of tolerance:** \_\_\_\_\_

**2. Material group:** \_\_\_\_\_  
**Material N°:** \_\_\_\_\_  
**Norm:** \_\_\_\_\_

**Hardness:** \_\_\_\_\_ N/mm<sup>2</sup> / HB / HRC  
**Elongation:** \_\_\_\_\_ %

**3. Thread:**       blind hole       through hole

**Threaded length:** \_\_\_\_\_ mm

**Core hole Ø:** \_\_\_\_\_

**Depth:** \_\_\_\_\_ mm

**Counter-bore Ø:** \_\_\_\_\_

**Depth:** \_\_\_\_\_ mm

**4. Cutting speed (V<sub>c</sub>):** \_\_\_\_\_ m/min      \_\_\_\_\_ l/min

**Feed (f):** \_\_\_\_\_ %

**5. Machine:** \_\_\_\_\_  internal coolant

**Working position:**       horizontal

vertical

**Rigid Tapping:**       "Soft Rigid Tapping"

**Tapping spindle:**       axial compensation

collet

de-clutching

Weldon

reversible

hot / cold shrunk

sliding clutch

**6. Lubricant:**       emulsion

cutting oil

air

mist

**Product:** \_\_\_\_\_

**7. Tool change reason:**       tool wear

tool breakage

thread not correct (checked with thread plug gauge)

tooth breakage in the chamfer lead

machine error

tooth breakage in the guiding thread

**8. Efficiency comparison:**

**Tool under test:** \_\_\_\_\_

**Performance and observations:** \_\_\_\_\_

**Remarks:** \_\_\_\_\_  
 \_\_\_\_\_

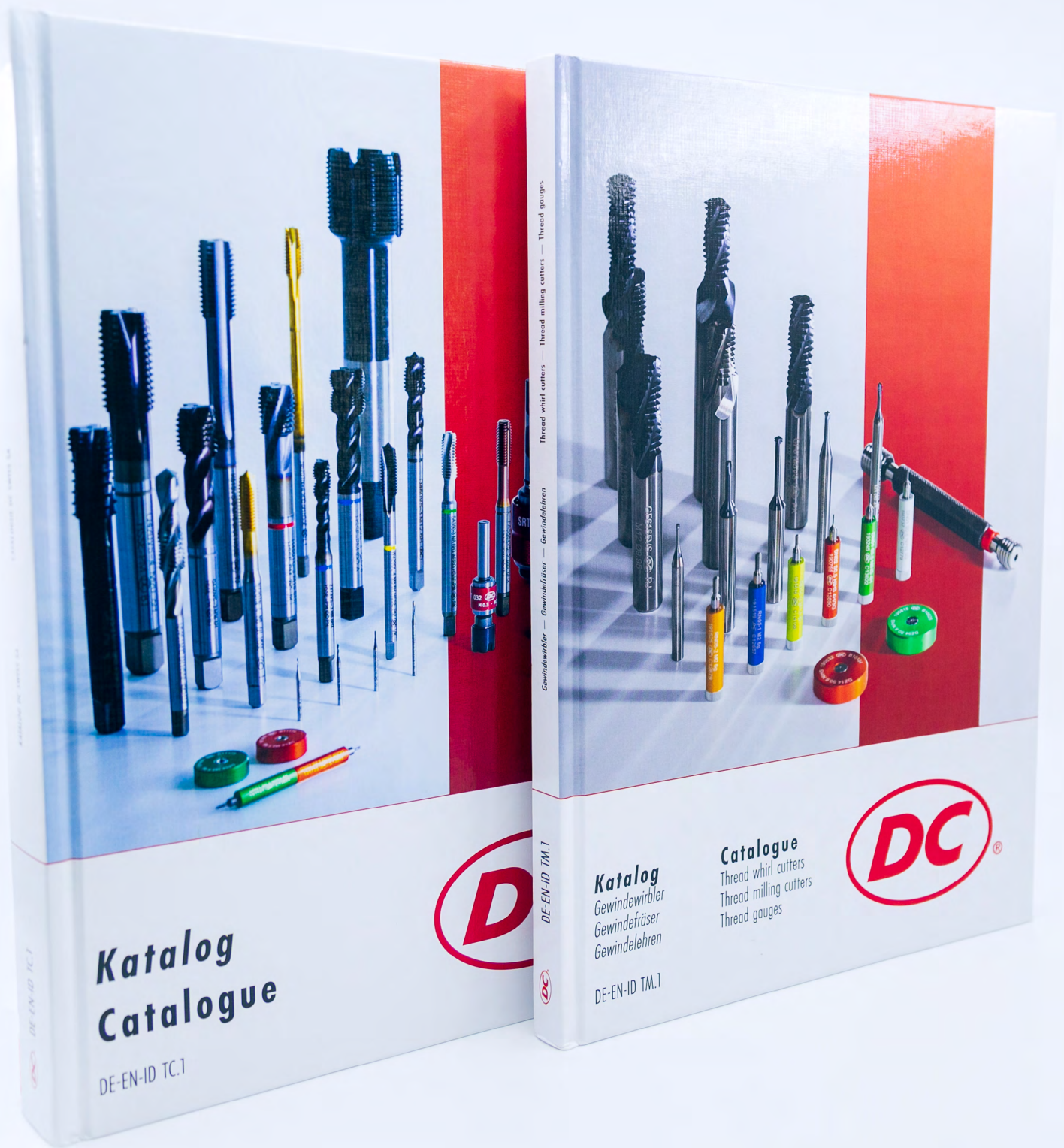
# LIEFER- UND ZAHLUNGSBEDINGUNGEN

<b>Bestellungen</b>	Bestellungen, die nicht ab Lager ausgeliefert werden können, sind von uns zu bestätigen. Artikel, die nicht mehr standardmässig hergestellt werden, obwohl sie im Katalog aufgeführt sind, müssen als Spezialanfertigung angeboten und berechnet werden. Aufträge können nur nach gegenseitiger schriftlicher Abmachung annulliert werden.
<b>Angebote und Auftragsbestätigungen</b>	Die zu unseren Angeboten gehörenden Beschreibungen und Unterlagen, wie Gewichts- und Massangaben, Abbildungen und Zeichnungen, sind durch die ständige Weiterentwicklung nur annähernd massgebend, sofern sie nicht als verbindlich bezeichnet sind.
<b>Preise</b>	Unsere Preise verstehen sich exklusive MWSt, für Lieferung ab Werk, ausschliesslich Verpackung, Versandkosten und Versicherung. Im Falle einer Preiserhöhung behalten wir uns das Recht vor, bereits bestätigte Werkzeuge zu den neuen Preisen zu verrechnen.
<b>Zahlungen</b>	Unsere Rechnungen sind innert 30 Tagen netto zahlbar. Bei Zielüberschreitungen werden Verzugszinsen nach dem jeweils gültigen Diskontsatz verrechnet. Die Kosten für Lieferungen per Nachnahme, Wechselspesen, usw. gehen zu Lasten des Käufers.
<b>Eigentumsvorbehalt</b>	Wir behalten uns das Eigentum an der jeweils gelieferten Ware bis zur vollständigen Bezahlung des Kaufpreises, einschliesslich aller Nebenkosten, vor.
<b>Versand</b>	Erfolgt auf Rechnung und Gefahr des Bestellers.
<b>Lieferfristen</b>	Die Lieferfristen werden jeweils sorgfältig ermittelt, sind jedoch stets ohne Gewähr. Bei Überschreitung der bestätigten Lieferfrist lehnen wir Verzugsstrafen oder sonstige Schadenersatzforderungen, sowie Rücktritt von Bestellungen, grundsätzlich ab.
<b>Spezialanfertigungen</b>	Bei allen Lieferungen von Spezialwerkzeugen behalten wir uns das Recht einer Über- oder Unterschreitung der Bestellmenge um bis zu 15 %, bei kleinen Mengen um 1 bis 2 Stück, vor.
<b>Garantie</b>	Werkzeuge, die wir als fehlerhaft anerkennen, werden gratis ersetzt. Dies jedoch ohne jegliche weitere Entschädigung.
<b>Beanstandungen</b>	Beanstandungen müssen spätestens innert 14 Tagen nach Erhalt der Ware schriftlich angebracht werden.
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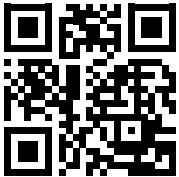
## DELIVERY AND PAYMENT CONDITIONS

<b>Orders</b>	Orders, which cannot be delivered from stock, will be acknowledged. Items, which do not belong any more to our standard programme, although still featured in the catalogue, will be invoiced as «specials». Orders may only be cancelled by mutual written agreement.
<b>Quotations and acknowledgements</b>	For reasons of constant development in this field, all descriptions mentioned in our quotations, annexed documents, weight indications, measurements as well as illustrations and drawings are approximate indications. These technical data have binding value only if expressly specified.
<b>Prices</b>	Our prices are quoted for deliveries ex works Malleray, excluding VAT, packing, insurance, freight, customs' and legalisation duties. Should prices increase, we reserve the right to invoice tools already acknowledged at the new prices.
<b>Payment</b>	Payments must be made in advance or against irrevocable and confirmed documentary credit to be opened in our favour with a Swiss bank. All banking commissions and charges have to be borne by the buyer.
<b>Right of ownership</b>	We reserve the right of ownership of all goods supplied until the sales price, plus all incidental charges, have fully been paid.
<b>Despatch</b>	Deliveries take place at the purchaser's risk.
<b>Delivery</b>	Confirmed delivery dates are non-binding. We will do our utmost to maintain them. However, we cannot accept responsibility of direct or consequential losses due to delayed deliveries.
<b>Special orders</b>	For all special tools we reserve the right to over or under supply the ordered quantity by up to 15 %, or on small quantities by 1 or 2 pieces.
<b>Guarantee</b>	Tools recognised to be defective by DC will be replaced free of charge, but without prejudice.
<b>Complaints</b>	Complaints will be considered only within 15 days after receipt of the goods.
<b>Drawings and sketches</b>	The reproduction or transmission of drawings and other documents to a third party are prohibited. The information (drawings and prints) in our catalogue is for guidance only and is not binding.
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### **WARNUNG**

*Gewindewerkzeuge können durch technisches Versagen oder durch Fahrlässigkeit brechen oder zersplittern und die Gesundheit des Mitarbeitenden gefährden. Befolgen Sie daher die gesetzlichen Sicherheits- und Gesundheitsvorschriften. Zudem ist das Tragen der Schutzbrille unerlässlich.*

*Das Schleifen von Gewindewerkzeugen verursacht gefährlichen Staub und darf nur unter gewissenhaftesten Sicherheitsrichtlinien verrichtet werden.*

### **WARNING**

Thread tools can break or shatter either through technical failure or negligence, and can endanger the health of the operator. Always obey the safety and health regulations, also the wearing of safety glasses is compulsory.

The grinding of threading tools causes hazardous particles, and must be performed only under most rigorous safety standards.

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