

# GUHRING

Program now  
enhanced  
by full size  
diameters

RF 100  
**diver**



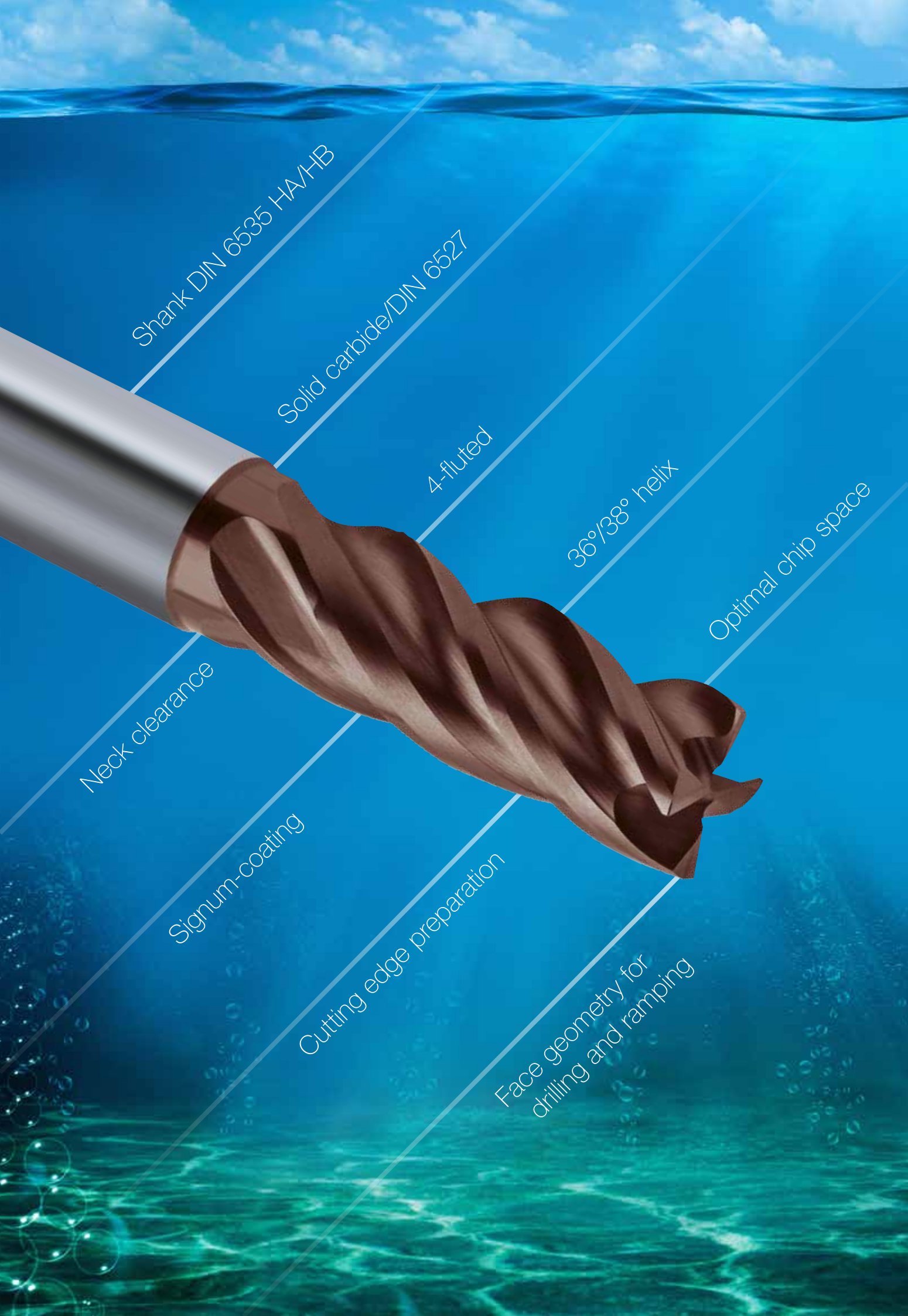
**DRILLING**

**RAMPING**

**ROUGHING**

**SLOTING**

**FINISHING**



Shank DIN 6535 HA/HB

Solid carbide/DIN 6527

4-fluted

36°/38° helix

Optimal chip space

Neck clearance

Signum-coating

Cutting edge preparation

Face geometry for  
drilling and ramping

# RAMPING

- + Plunge angle up to 45°
- + Very good chip removal

## APPLICATION EXAMPLE

Wet machining in 42CrMo4

Plunge angle = 30°

$a_p = 12 \text{ mm}$   
 $a_e = 11.7 \text{ mm}$   
 $v_c = 200 \text{ m/min}$

$v_f = 1200 \text{ mm/min}$



# DRILLING

- + Very good drilling characteristics to 2xD
- + Ideal pre-drilling tool for reamers
- + No separate pilot tool necessary

## APPLICATION EXAMPLE

Dry machining in cast iron

$a_p = 12 \text{ mm}$   
 $a_e = 12 \text{ mm}$   
 $v_c = 240 \text{ m/min}$

$v_f = 800 \text{ mm/min}$



# SLOTTING

- + High feed rate for plunging and slotting
- + High metal removal rate and undersize diameter for precision slots
- + High process reliability with smooth operation

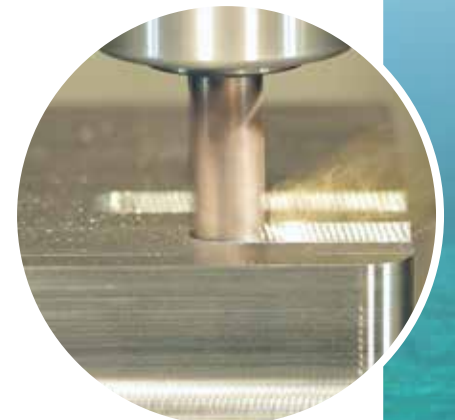
## APPLICATION EXAMPLE

Dry machining in steel 42CrMo4

$a_p = 12 \text{ mm}$   
 $a_e = 11.7 \text{ mm}$   
 $v_c = 240 \text{ m/min}$

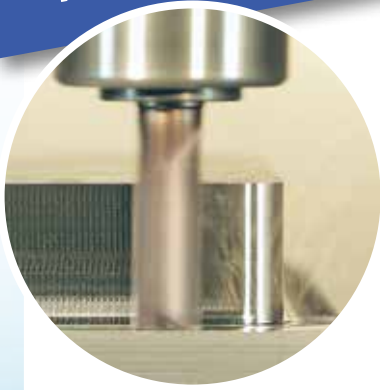
$v_f = 1800 \text{ mm/min}$

Metal removal rate  $Q = 252 \text{ cm}^3/\text{min}$



# ROUGHING

- + Thanks to low power consumption also suitable on less rigid machines
- + Up to 100% increased cutting speed in steel
- + High metal removal rate



## APPLICATION EXAMPLE

Dry machining in steel 42CrMo4

$a_p = 24 \text{ mm}$

$a_e = 3 \text{ mm}$

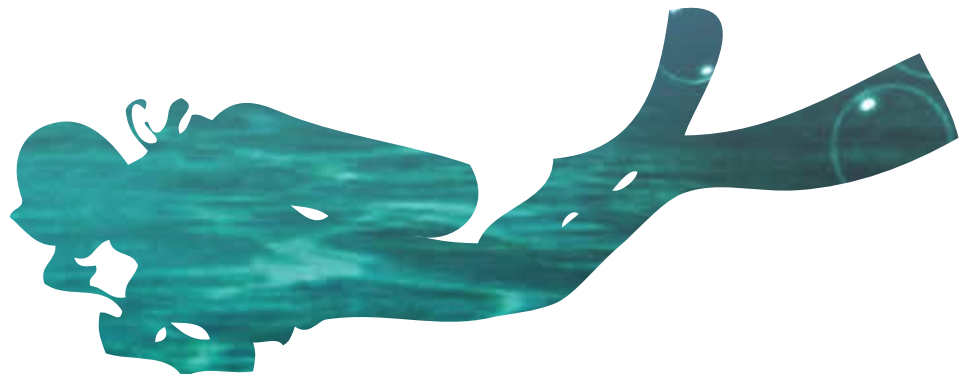
$v_c = 280 \text{ m/min}$

$v_f = 3050 \text{ mm/min}$

Metal removal rate  $Q = 219 \text{ cm}^3/\text{min}$

# FINISHING

- + Contours with high surface quality
- + Up to 100% increased tool life
- + High cutting parameters also in alloyed heat-treatable steels



## Plunging\* and Ramping\*

Material / ISO Material	Hardness	Drilling depth* (a <sub>p</sub> max.)	Ramping* max. angle in °	Cutting speed. (v <sub>c</sub> )	f <sub>z</sub> (mm/z) with nom. Ø						
					4	6	8	10	12	16	20
Struct./free-cutt. steels, unall. heat-treat./case hard. steels	< 850 N/mm <sup>2</sup>	1xd	45°	270	0.015	0.020	0.030	0.040	0.045	0.050	0.060
P Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm <sup>2</sup>	1xd	45°	240	0.012	0.015	0.020	0.035	0.040	0.045	0.050
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm <sup>2</sup>	1xd	30°	200	0.008	0.010	0.015	0.025	0.030	0.035	0.040
M Stainless steel - easy to machine / sulphured	< 750 N/mm <sup>2</sup>	1xd	10°	60	0.008	0.010	0.015	0.025	0.030	0.035	0.040
Stainless steel - moderately difficult to machine	> 750 - 950 N/mm <sup>2</sup>	0.5xd	5°	50	0.008	0.010	0.015	0.020	0.025	0.030	0.035
K Cast iron, grey cast iron, spher. graphite/mall. cast iron	> 240 HB 30	1xd	45°	150	0.015	0.020	0.030	0.040	0.045	0.050	0.060
N Aluminium, Al-wrought alloys, Al-alloys	< 3% Si	1xd	30°	180	0.012	0.015	0.020	0.035	0.040	0.045	0.050
Aluminium-cast alloys	> 3% Si	1xd	45°	140	0.015	0.020	0.030	0.040	0.045	0.050	0.060
S Titanium, titanium alloys	< 1400 N/mm <sup>2</sup>	0.5xd	10°	45	0.008	0.010	0.015	0.020	0.025	0.030	0.035

\* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

## Slotting\*

Material / ISO Material	Hardness	Cutting depth (a <sub>p</sub> )	Cutting width (a <sub>e</sub> )	Cutting speed. (v <sub>c</sub> )	f <sub>z</sub> (mm/z) with nom. Ø						
					4	6	8	10	12	16	20
Struct./free-cutt. steels, unall. heat-treat./case hard. steels	< 850 N/mm <sup>2</sup>	1xd	1xd	270	0.018	0.025	0.035	0.050	0.060	0.080	0.100
P Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm <sup>2</sup>	1xd	1xd	240	0.018	0.025	0.035	0.050	0.060	0.080	0.100
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm <sup>2</sup>	1xd	1xd	200	0.018	0.025	0.030	0.045	0.050	0.070	0.085
M Stainless steel - easy to machine / sulphured	< 750 N/mm <sup>2</sup>	1xd	1xd	120	0.015	0.020	0.030	0.045	0.060	0.065	0.075
Stainless steel - moderately difficult to machine	> 750 - 950 N/mm <sup>2</sup>	1xd	1xd	80	0.015	0.020	0.030	0.040	0.045	0.060	0.070
K Cast iron, grey cast iron, spher. graphite/mall. cast iron	> 240 HB 30	1xd	1xd	160	0.018	0.025	0.035	0.050	0.060	0.080	0.100
N Aluminium, Al-wrought alloys, Al-alloys	< 3% Si	1xd	1xd	500	0.020	0.030	0.040	0.065	0.080	0.095	0.110
Aluminium-cast alloys	> 3% Si	1xd	1xd	340	0.015	0.020	0.030	0.055	0.065	0.080	0.100
S Titanium, titanium alloys	< 1400 N/mm <sup>2</sup>	1xd	1xd	60	0.015	0.020	0.030	0.040	0.045	0.060	0.070

\* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

## HPC-Roughing\* and HSC-Finishing\*\*

Material / ISO Material	Hardness	Cutting depth (a <sub>p</sub> )	Cutting width*** (a <sub>e</sub> )	Cutting speed. (v <sub>c</sub> )	f <sub>z</sub> (mm/z) with nom. Ø						
					4	6	8	10	12	16	20
Struct./free-cutt. steels, unall. heat-treat./case hard. steels	< 850 N/mm <sup>2</sup>	2xd	0.4xd	350	0.020	0.030	0.045	0.060	0.075	0.090	0.110
P Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm <sup>2</sup>	2xd	0.4xd	290	0.020	0.030	0.045	0.060	0.075	0.090	0.110
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm <sup>2</sup>	2xd	0.3xd	240	0.018	0.025	0.030	0.055	0.070	0.085	0.100
M Stainless steel - easy to machine / sulphured	< 750 N/mm <sup>2</sup>	2xd	0.3xd	140	0.018	0.025	0.035	0.055	0.065	0.080	0.090
Stainless steel - moderately difficult to machine	> 750 - 950 N/mm <sup>2</sup>	2xd	0.25xd	120	0.015	0.020	0.030	0.045	0.050	0.065	0.075
K Cast iron, grey cast iron, spher. graphite/mall. cast iron	> 240 HB 30	2xd	0.4xd	180	0.015	0.030	0.045	0.060	0.075	0.090	0.110
N Aluminium, Al-wrought alloys, Al-alloys	< 3% Si	2xd	0.5xd	600	0.030	0.040	0.060	0.080	0.100	0.120	0.150
Aluminium-cast alloys	> 3% Si	2xd	0.4xd	420	0.020	0.030	0.045	0.060	0.075	0.090	0.110
S Titanium, titanium alloys	< 1400 N/mm <sup>2</sup>	2xd	0.4xd	120	0.015	0.020	0.030	0.045	0.050	0.065	0.075

\* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

\*\* for HSC machining the cutting speed can be increased by 50%, feed rate fz can be reduced depending on surface requirements.

\*\*\* for trochoidal milling and imachining with ae = 0.1-0.2xd the cutting speed vc and the feed rate can be increased by 50 %.

## Drilling\*

Material / ISO Material	Hardness	Drilling depth* (a <sub>p</sub> max.)	Cutting speed. (v <sub>c</sub> )	f <sub>z</sub> (mm/z) with nom. Ø						
				4	6	8	10	12	16	20
Struct./free-cutt. steels, unall. heat-treat./case hard. steels	< 850 N/mm <sup>2</sup>	2xd	270	0.015	0.020	0.030	0.040	0.045	0.050	0.060
P Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm <sup>2</sup>	2xd	240	0.010	0.015	0.020	0.035	0.040	0.045	0.050
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm <sup>2</sup>	1xd	200	0.008	0.010	0.015	0.025	0.030	0.035	0.040
K Cast iron, grey cast iron, spher. graphite/mall. cast iron	> 240 HB 30	2xd	150	0.015	0.020	0.030	0.040	0.045	0.050	0.060
N Aluminium, Al-wrought alloys, Al-alloys	< 3% Si	1xd	180	0.010	0.015	0.020	0.035	0.040	0.045	0.050
Aluminium-cast alloys	> 3% Si	1xd	140	0.015	0.020	0.030	0.040	0.045	0.050	0.060

\* wood pecking recommended from drilling depth 1 x D

\* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

**Price per Set**  
**174.20 £**

RF 100 DIVER-Set Undersize diameter

Guh. no. 6755-1.0 6754-1.0

RF 100 DIVER-Set Full size diameter **NEW**

Guh. no. 6755-2.0 6754-2.0



### Undersize diameter

Content: 5 pieces  
Guhring no. 6737 (shank HA) respectively  
Guhring no. 6736 (shank HB)  
in the following dia.: 5.7 / 7.7 / 9.7 / 11.7 / 15.6

### Full size diameter

Content: 5 pieces  
Guhring no. 6737 (shank HA) respectively  
Guhring no. 6736 (shank HB)  
in the following dia.: 6.0 / 8.0 / 10.0 / 12.0 / 16.0

Undersize diameter for mating grooves  
and interpolated corner radii and contours



RF 100 DIVER

Guh. no.

6737

6736



Tool material

**Solid carbide**

Surface finish

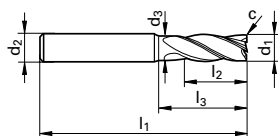
Signum

Signum

Discount group

18

18



Code no.	d1 (h10)	d2 (h6)	d3	l1	l2	l3	c		Z
	mm	mm	mm	mm	mm	mm	mm x 45°		
4.000 <b>NEW</b>	4.000	6.000	3.800	57.00	11.00	18.00	0.040		4
5.000 <b>NEW</b>	5.000	6.000	4.800	57.00	13.00	18.00	0.050		4
5.700	5.700	6.000	5.500	57.00	13.00	19.60	0.060		4
6.000 <b>NEW</b>	6.000	6.000	5.700	57.00	13.00	20.00	0.060		4
7.700	7.700	8.000	7.400	63.00	19.00	25.50	0.080		4
8.000 <b>NEW</b>	8.000	8.000	7.700	63.00	19.00	26.00	0.080		4
9.700	9.700	10.000	9.400	72.00	22.00	30.50	0.100		4
10.000 <b>NEW</b>	10.000	10.000	9.500	72.00	22.00	30.00	0.100		4
11.700	11.700	12.000	11.200	83.00	26.00	35.30	0.120		4
12.000 <b>NEW</b>	12.000	12.000	11.500	83.00	26.00	36.00	0.120		4
13.700	13.700	14.000	13.200	83.00	26.00	35.30	0.140		4
14.000 <b>NEW</b>	14.000	14.000	13.500	83.00	26.00	36.00	0.140		4
15.600	15.600	16.000	15.100	92.00	32.00	41.20	0.160		4
16.000 <b>NEW</b>	16.000	16.000	15.500	92.00	32.00	42.00	0.160		4
19.500	19.500	20.000	19.000	104.00	38.00	51.10	0.200		4
20.000 <b>NEW</b>	20.000	20.000	19.500	104.00	38.00	52.00	0.200		4

Price per piece in £

<b>18.60</b>	<b>19.69</b>
<b>18.60</b>	<b>19.69</b>
<b>23.21</b>	<b>24.26</b>
<b>23.21</b>	<b>24.26</b>
<b>31.81</b>	<b>32.88</b>
<b>31.81</b>	<b>32.88</b>
<b>47.47</b>	<b>49.07</b>
<b>47.47</b>	<b>49.07</b>
<b>61.47</b>	<b>63.10</b>
<b>61.47</b>	<b>63.10</b>
<b>81.43</b>	<b>83.06</b>
<b>79.44</b>	<b>81.03</b>
<b>106.23</b>	<b>108.94</b>
<b>106.23</b>	<b>108.94</b>
<b>162.32</b>	<b>165.03</b>
<b>162.32</b>	<b>165.03</b>

# GUHRING

GUHRING LTD. | Telephone: 0121 749 5544 | Fax: 0121 776 7224

Castle Bromwich Business Park | Tameside Drive | Birmingham B35 7AG | United Kingdom

info@guhring.co.uk | www.guhring.co.uk

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