

**DC** chart for thrillers type BGF

Examples for application groups, page 48.

The values are a guideline.

**Material classification**

Material groups	Material designation	Hardness (HB)	Tensile strength $R_m$ (N/mm <sup>2</sup> )	Vc (m/min)		Rate of feed f (mm/revolution)	Rate of feed fz (mm/tooth)
				Standard	Coated VS	Drilling	Milling
10 Steels	11 Free-cutting steels	< 200	< 700				
	12 Structural / cementation steels	< 200	< 700				
	13 Carbon steels	< 300	< 1000				
	14 Alloy steels <850 N/mm <sup>2</sup>	< 250	< 850				
	15 Alloy steels hard./temp. >850 - <1150 N/mm <sup>2</sup>	> 250	> 850				
	16 High tensile alloy steels	> 250	> 850				
20 Stainless Steels	21 Free machining stainless steels	< 250	< 850				
	22 Austenitic stainless steels	< 250	< 850				
	23 Ferritic and martensitic <850 N/mm <sup>2</sup>	< 250	< 850				
	24 Ferritic and martens. >850 - <1150 N/mm <sup>2</sup>	> 250	> 850				
30 Cast iron	31 Cast iron	< 250	< 850	50 ÷ 100	80 ÷ 150	0.1 ÷ 0.3	0.05 ÷ 0.15
	32 Spheroidal graphite + malleable cast iron	< 250	< 850	50 ÷ 80	80 ÷ 120	0.1 ÷ 0.2	0.02 ÷ 0.10
40 Titanium	41 Pure titanium	< 250	< 850				
	42 Titanium alloys	> 250	> 850				
50 Nickel	51 Nickel alloys 1 <850 N/mm <sup>2</sup>	< 250	< 850				
	52 Nickel alloys 2 >850 - <1150 N/mm <sup>2</sup>	> 250	> 850				
	53 Nickel alloys 3 >1150 - ≤1600 N/mm <sup>2</sup>	> 340	> 1150				
60 Copper	61 Pure copper (electrolitic copper)	< 120	< 400				
	62 Short chip brass, phosphor bronze, gun metal	< 200	< 700	100 ÷ 250	150 ÷ 300	0.1 ÷ 0.4	0.05 ÷ 0.20
	63 Long chip brass	< 200	< 700	100 ÷ 250	150 ÷ 300	0.1 ÷ 0.4	0.05 ÷ 0.20
70 Aluminium Magnesium	71 Al / Mg unalloyed	< 100	< 350	100 ÷ 250	150 ÷ 300	0.1 ÷ 0.4	0.05 ÷ 0.20
	72 Al alloyed Si < 1.5 %	< 150	< 500	100 ÷ 250	150 ÷ 300	0.1 ÷ 0.4	0.05 ÷ 0.20
	73 Al alloyed Si > 1.5 % - < 10 %	< 120	< 400	100 ÷ 250	150 ÷ 300	0.1 ÷ 0.4	0.05 ÷ 0.20
	74 Al alloyed Si > 10 %, Mg-Alloys	< 120	< 400	100 ÷ 200	150 ÷ 250	0.1 ÷ 0.3	0.05 ÷ 0.15
80 Plastic compounds	81 Thermoplastics	-	-				
	82 Duroplastics	-	-				
	83 Glass fibre reinforced plastics	-	-				

**Technical notes**

- Δ When machining long chipping materials, they may require one more deburring operations.
- Δ Please ask **DC SWISS SA** before using BGF type thrillers in materials where no cutting data is given.