

# General Information

## WORKPIECE MATERIALS

Dormer classifies workpiece material in AMG (Application Material Groups) below. Tool recommendation is based on these AMGs.

### APPLICATION MATERIAL GROUPS

Application Material Groups			Hardness HB	Tensile strength N/mm <sup>2</sup>
1. Steel	1.1	Magnetic soft steel	< 120	< 400
	1.2	Structural steel, case carburizing steel	< 200	< 700
	1.3	Plain Carbon steel	< 250	< 850
	1.4	Alloy steel	< 250	< 850
	1.5	Alloy steel, Hardened and tempered steel	> 250 < 350	> 850 < 1200
	1.6	Alloy steel, Hardened and tempered steel	> 350	> 1200 < 1620
	1.7	Alloy steel, Heat treated	49-55 HRc	> 1620
	1.8	Alloy steel, Hardened & Wear resistant steel	55-63 HRc	> 1980
2. Stainless Steel	2.1	Free machining, Stainless Steel	< 250	< 850
	2.2	Austenitic	< 250	< 850
	2.3	Ferritic + Austenitic, Ferritic, Martensitic	< 300	< 1000
3. Cast Iron	3.1	Lamellar graphite	> 150	> 500
	3.2	Lamellar graphite	> 150 ≤ 300	> 500 < 1000
	3.3	Nodular graphite, Malleable Cast Iron	< 200	< 700
	3.4	Nodular graphite, Malleable Cast Iron	> 200 < 300	> 700 < 1000
4. Titanium	4.1	Titanium, unalloyed	< 200	< 700
	4.2	Titanium, alloyed	< 270	< 900
	4.3	Titanium, alloyed	> 270 < 350	> 900 ≤ 1250
5. Nickel	5.1	Nickel, unalloyed	< 150	< 500
	5.2	Nickel, alloyed	> 270	> 900
	5.3	Nickel, alloyed	> 270 < 350	> 900 < 1200
6. Copper	6.1	Copper	< 100	< 350
	6.2	β-Brass, Bronze	< 200	< 700
	6.3	α-Brass	< 200	< 700
	6.4	High Strength Bronze	< 470	< 1500
7. Aluminium Magnesium	7.1	Al, Mg, unalloyed	< 100	< 350
	7.2	Al alloyed, Si < 0.5%	< 150	< 500
	7.3	Al alloyed, Si > 0.5% < 10%	< 120	< 400
	7.4	Al alloyed, Si > 10% Whisker reinforced Al-alloys Mg-alloys	< 120	< 400
8. Synthetic materials	8.1	Thermoplastics		
	8.2	Thermosetting plastics		
	8.3	Reinforced plastic materials	-	-
9. Hard material	9,1	Cermets (metals-ceramics)	< 550	< 1700
10. Graphite	10.1	Graphite		