

TECHNICAL APPLICATION

THE OPTIMAL SOLUTION FOR YOUR TECHNICAL CHOICE
THE RIGHT SOLUTION FOR YOUR TECHNICAL CHALLENGE

ISO	Subgroup	Tensile Strength	V (GB)	V (B)	V (GF)	Lubricant	
P	1.01	General structural steel	< 500 N/mm ²	6-20	9-30	12-40	E/Oil
			500-800 N/mm ²	6-15	9-25	12-30	E/Oil
			800-1200 N/mm ²	4-8	6-12	-	E/Oil
	1.02	Free cutting steel	500-800 N/mm ²	6-15	9-25	12-40	E/Oil
			800-1200 N/mm ²	4-8	6-12	-	E/Oil
	1.03	Steel for cold extrusion	500-800 N/mm ²	10-15	15-25	20-30	E/Oil
	1.04	Case hardening steel	500-800 N/mm ²	6-15	9-25	12-30	E/Oil
			800-1200 N/mm ²	4-8	6-12	-	E/Oil
			> 1200 N/mm ²	2-4	3-6	-	E/Oil
	1.05	Nitriding steel	500-800 N/mm ²	6-15	9-25	12-30	E/Oil
			800-1200 N/mm ²	4-8	6-12	-	E/Oil
			> 1200 N/mm ²	2-4	3-6	-	E/Oil
	1.06	Heat-treatable steel	500-800 N/mm ²	6-15	9-25	12-30	E/Oil
			800-1200 N/mm ²	4-8	6-12	-	E/Oil
			> 1200 N/mm ²	2-4	3-6	-	E/Oil
	1.07	Tool steel		1-5	5-15	-	E/Oil
1.08	High speed steel		1-5	3-6	-	E/Oil	
M	1.09	Stainless steel	ferritic	3-8	5-12	10-15	Oil
			austenitic	1-4	3-6	4-8	Oil
1.10	Heat-resisting steel		1-4	3-6	4-8	Oil	
K	2.01	Grey cast iron		8-16	12-20	-	E/Oil
	2.02	Spheroidal graphite cast iron		6-12	12-20	-	E/Oil
	2.03	Malleable cast iron		8-12	12-16	-	E/Oil
N	3.01	Copper, low alloyed		10-15	15-25	20-30	E/Oil
	3.02	short chipping brass		15-30	25-45	-	E/Oil
	3.03	long chipping brass		10-20	15-20	20-40	E/Oil
	3.04	Copper-aluminium alloys, long chipping		6-15	9-25	-	E/Oil
	3.05	Copper-zinc alloys, short chipping		15-30	25-45	-	E/Oil
	4.01	Unalloyed aluminium and wrought alu-alloys		15-30	-	30-60	E/Oil
	4.02	Aluminium casting alloys < 10 % Si		15-30	-	-	E/Oil
	4.03	Aluminium casting alloys > 10 % Si		10-20	15-30	-	E/Oil
	4.04	Magnesium alloys		10-20	15-30	-	E
	4.05	Zinc alloys		8-15	-	-	E/Oil
S	5.01	Nickel alloys		1-4	-	-	Oil
	5.02	Titanium alloys		2-6	-	-	Oil
	5.03	Pure Titanium		2-6	-	-	Oil
H	6.01	44-50 HRC		-	3-5	-	Oil
	6.02	50-55 HRC		-	1-3	-	Oil
	6.03	55-60 HRC		-	1-3	-	Oil
	6.04	60-65 HRC		-	1-2	-	Oil

V= m/min / E: Emulsion, Oil: Cutting Oil
(GB): Taps, (B): Coating, (GF): Forming taps