

# STEEL

## CASE-HARDENED STEEL & TEMPERED STEEL

	MATERIAL SPECIFICATION	ALLOY COMPOSITION (WT %)	CONDITION	YS (0.2%) (MPA)	UTS (MPA)	STRAIN (%)	HARDNESS	TIGHTNESS G/CM <sup>3</sup> (MIN)	REMARKS
CASE-HARDENED STEEL	MIM 4600 (MIM 2200)	Ni 1.5 - 2.5% Mo 0.75% max C 0.15% max Fe Balance	sintered	140	310	40	45 - 65 HRB	7.50	can be case hardened to achieve a surface hardness of 600 - 750 HV 1
	MIM 4600 (modified) (MIM 2700)	Ni 6 - 8% Mo 0.5% max C 0.15% max Fe Balance	sintered heat treated	265 450	410 900	25 10	70 - 90 HRB 500 - 600 HRB	7.60	-
	MIM 8620	Cr 0.5 - 1% Ni 0.5 - 1% Mo 0.5% max C 0.2% max Fe Balance	sintered	210	445	30	45 - 65 HRB	7.50	can be case hardened to achieve a surface hardness of 600 - 750 HV 1
TEMPERED STEEL	MIM 4605	Ni 1.5 - 2.5% Mo 0.75% max C 0.3 - 0.6% Fe Balance	sintered heat treated-UTS	500 1425	700 1620	11 3	70 - 100 HRB 45 - 50 HRC	7.50	-
	MIM 4630 (modified)	Ni 6 - 8% Mo 0.5% max C 0.2 - 1.5% Fe Balance	sintered heat treated	600 960	700 1180	13 10	25 - 30 HRB 35 - 40 HRC	7.50	-
	MIM 4340	Ni 1.5 - 2.5% Cr 0.75 - 1.25 Mo 0.75% Max C 0.3 - 0.6% Fe Balance	sintered heat treated	500 1400	700 1620	11 3	70 - 100 HRB 45 - 50 HRC	7.50	-
	MIM 4140	Ni 0.75 - 1.25% Cr 0.75 - 1.25 Mo 0.75% Max C 0.3 - 0.6% Fe Balance	sintered heat treated	625 820	825 1405	9 5	70 - 100 HRB 45 - 50 HRCO	7.50	-
	MIM 52100	Ni 0.5% max Cr 1 - 1.6% Mo 0.5% Max C 0.90 - 1.2% Fe Balance	sintered heat treated	1000 1100	1250 1500	5 4	25 - 30 HRC 60 - 65 HRC	7.50	-