

# TECHNICAL GUIDE

## O1 TOOL STEEL




### Steel Description

O1 is a general purpose carbon manganese tool steel which is tough and economical and is the standard grade for punching and blanking, where ease of machining is more important than ultimate wear resistance and can be hardened to 60 /62 RC depending on mass. Typical applications are press tool punches and moulding dies.

BS 4659	COLOUR CODE	DESCRIPTION
BO1		Non shrinking oil hardening tool steel

CHEMICAL ANALYSIS		MECHANICAL PROPERTIES	
Car	0.85 / 1.40	Tensile Strength N/MM2 Min Rm	
Sil	0.40 max	Yield Stress N/MM2 Min Rm	
Mang	1.10 / 1.35	Elongation A Min % on 5.65√SO	
Phos	0.035 max	Izod Min	
Sul	0.035 max	Kcv Min	
Chr	0.40 /0.60	Proof Stress 0.2% N/MM2 Min	
Van	0.25 max	Brinell Hardness	Ann'd 229max
Tung	0.40 / 0.60		

INTERNATIONAL SPECIFICATION COMPARISON	
BS 4659	BO1
GERMAN DIN	
FRENCH AFNOR	90MCW5
SWEDISH SS	
AMERICAN SAE	O1
EUROPEAN STEEL NO.	1.2510
EUROPEAN STEEL NAME	100MnCrW4
EUROPEAN STANDARD	

SIZE RANGE SUMMARY			
	Rounds	IMP	1/8" - 6" dia
	Flats	IMP/MM	Contact sales with your required size.
	Squares	IMP/MM	Contact sales with your required size.

SEE STOCK RANGE FOR SPECIFIC SIZES.

QUICK VIEW SYSTEM	
MACHINEABILITY	40
WELDABILITY	Not recommended
HARDENABILITY	Good
SELECTION GUIDE AND USAGE EXAMPLES	General purpose tool steel. Tough hard and economical. Press tool punches, moulding dies