

TECHNICAL GUIDE

HI3 TOOL STEEL




Steel Description

HI3 is an air hardening chromium die tool steel which can be used for a range of applications. The higher vanadium content ensures increased resistance to heat checking and thermal shock and all round improvement to properties at elevated temperatures. Typical applications include hot forging and pressing dies, extrusion dies, mandrels and punches, hot chisels, pressure pads, extrusion stems and rams, blanking and bending tools & hot heading tools.

BS 4659	COLOUR CODE	DESCRIPTION
BH13		Die Steel

CHEMICAL ANALYSIS		MECHANICAL PROPERTIES	
Car	0.32/0.42	Tensile Strength N/MM2 Min Rm	
Sil	0.85/1.15	Yield Stress N/MM2 Min Rm	
Mang	0.40 Max	Elongation A Min % on 5.65√SO	
Phos		Izod Min	
Sul		Kcv Min	
Chr	4.75/5.25	Proof Stress 0.2% N/MM2 Min	
Moly	1.25/1.75	Brinell Hardness	Ann'd 229max
Van	0.90/1.10		

INTERNATIONAL SPECIFICATION COMPARISON	
BS 4659	BH13
GERMAN DIN	X40CrMoV5-1
FRENCH AFNOR	
SWEDISH SS	
AMERICAN SAE	H13
EUROPEAN STEEL NO.	1.2344
EUROPEAN STEEL NAME	
EUROPEAN STANDARD	

SIZE RANGE SUMMARY			
	Rounds	MM	25-240mm 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	30
WELDABILITY	Not recommended
HARDENABILITY	Good
SELECTION GUIDE AND USAGE EXAMPLES	Casting and extrusion dies