

COMPARISON SUMMARY BETWEEN BISALLOY® WEAR 450 STEEL AND IMPORTED PLATES

CHARACTERISTIC	BISALLOY® WEAR 450 STEEL		HARDOX 450*		QUARD 450+	
HARDNESS Brinell	425 - 475 Through hardened to 50mm		425 - 475		420 - 480	
IMPACT PROPERTIES Charpy Impact (Longitudinal) -40°C (10mm x 10mm)	Sample Size	Energy	Sample Size	Energy	Sample Size	Energy
	10x10mm	35 J	10x10mm	50 J	10x10mm	35 J
STEEL TYPE	Low Alloy, Heat Treated		Low Alloy, Heat Treated		Low Alloy, Heat Treated	
CHEMICAL COMPOSITION	Plate Thickness (mm)	Typical Avg	Typical Avg		Typical Avg	
Carbon Equivalent CE (IIW) CE= C+Mn+Cr+Mo+V+Cu+Ni 6 5 15	6 - 20	0.46	0.49 - 0.52		-	
	25 - 50	0.58	0.60		0.56	
	>50 - 100	0.62	0.74		0.64	
Carbon Equivalent CET CET= C+Mn+Mo+Cr+Cu+Ni 10 20 40	6 - 20	0.30	0.38 - 0.39		-	
	25 - 50	0.36	0.41		0.37	
	>50 - 100	0.40	0.43		0.40	
STEEL MAKING PROCESS	Grain Refined, Low Sulphur Vacuum Degassed		Grain Refined, Low Sulphur Vacuum Degassed		Desulphurisation in a ladle furnace, fine grain treated	
WELDING CONSUMABLES	Low Hydrogen		Low Hydrogen		Low Hydrogen	
Pre-Heat Joint Combined Thickness ≤40	Nil		Nil		Room Temperature	
>40mm ≤60mm	100°C		100°C		100°C	
>60mm ≤100mm	125°C		125°C		-	
Maximum Interpass Temps	150 - 175°C		150 - 175°C		225°C	
Maximum Heat Input	2.0 - 2.5 kJ/mm		2.0 - 2.5 kJ/mm		1.0 - 1.75 kJ/mm	
CUTTING						
Oxy Methods	OK		OK		OK	
Plasma	OK		OK		OK	
Laser	OK		OK		OK	
Water Jet	OK		OK		OK	
BENDING	6 - 50mm Thickness		6 - 50mm Thickness		8 - 20mm Thickness	
Minimum R/T Transverse Bend	4.0		4.0		4.0	
Longitudinal Bend	5.0		5.0		5.0	
Minimum Die Opening W/t Transverse Bend	10.0		10.0		12.0	
Longitudinal Bend	12.0		12.0		14.0	
DRILLING						
Cobalt Type HSS	OK		OK		OK	
Solid Carbide Type	OK		OK		OK	
Replaceable Carbide	OK		OK		OK	
Countersinking & Counterboring	OK		OK		OK	
MACHINING						
Milling	OK		OK		OK	
Turning	OK		OK		OK	