HILLFOOT
METALS | SUPPLY CHAIN | INNOVATION

MATERIAL DATASHEET

Title:

38MnB5

Material Grade: **38MnB5**
Material Condition(s): **Untreated / Quench and tempered**
Surface Finish: **As rolled**

Associated Standard: **BS EN 10083**

Description:

A micro alloy steel with added Boron for enhanced hardenability. The material is capable of through hardening by quenching and tempering to produce tensile strengths of 1025 N N/mm2 (on limited sections) and achieves good wear resistance along with excellent mechanical loading performance. Material will exhibit hardness of 50-55HRc in the as quenched condition.

Typical applications: **Agricultural machinery (discs, plough shares), cutting equipment, machinery for public works and mining**

Typical conditions: **no designation or +U – as rolled**
+QT – quench and tempered
+H – with additional hardenability test

1. STEELMAKING

	C	Si	Mn	S	P	B
Min	0.36		1.15			0.008
Max	0.42	0.40	1.45	0.035	0.025	0.005

2. TYPICAL MECHANICAL PROPERTIES

Test type			Tensile and hardness test (at room temperature)						Impact test (KV)
			Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness	Room Temp
Variation	Sample dia	Unit	*N/mm2*	*N/mm2*	*N/mm2*	*%*	*%*	*HB*	J
38MnB5 + QT	> 16 ≤ 40mm	Min	700		850	12	50		60
		Max			1050				