Industeel

ArcelorMittal

Creusabro® 4800

Creusabro® 4800: advanced technology in wear

Creusabro® 4800 is a high performance wear resistant steel, exhibiting a wear resistance 50% higher than that of conventional 400HB water quenched steel.
Rather than relying exclusively on a high hardness level, properties of **Creusabro® 4800** are improved as a result of the combination of an enriched alloying content (chromium, nickel, molybdenum and titanium) and specific heat treatment procedures. **Creusabro® 4800** is designed to offer the best possible optimization of an exceptional wear resistance and very acceptable workability.
The moderate hardness of **Creusabro® 4800** in the asdelivered condition makes processing operations like cutting, machining and forming easier and far better than ordinary water quenched steels.
When in service, **Creusabro® 4800** strongly improves its wear resistance by a surface hardening effect of about +70 HB under the action of local plastic deformations caused by impact with rocks or pressure by the abrasive particles.
Creusabro® 4800 is ideal for applications in mines and quarries, cement and steelmaking industries, public works and agricultural machinery. The grade is suitable for all types of abrasion, sliding or impact, dry or wet environments, including operating temperatures up to 350 - 450°C.

PROPERTIES

STANDARDS

Creusabro® 4800 is a proprietary and exclusive grade developed by Industeel. There exists no engineering standard for plates intended for wear resistant applications.

CHEMICAL ANALYSIS - % WEIGHT

Max. values

C	S	P	Mn	Ni	Cr	Mo
≤ 0.20	≤ 0.005	≤ .018	≤ 1.6	≤ 1.0	≤ 1.9	≤ 0.40

MECHANICAL PROPERTIES

Indicative values.

Hardness (HB)	Y S MPa (ksi)	UTS MPa (ksi)	Elongation 5.65 %	KCVL - 20°C (- 4°F) J (ft.lb)	Elasticity modulus GPa
370	900 (130)	1200 (174)	12	36 (27)	205

Guaranteed values (as supplied) Hardness 340 - 400 HB

PHYSICAL PROPERTIES

Average Expansion coefficient (x $10^{-6}.°C^{-1}$)

20/100°C (68/212°F)	20/200°C (68/392°F)	20/300°C (68/572°F)	20/400°C (68/752°F)	20/500°C (68/932°F)	20/600°C (68/1112°F)
12.4	13.1	13.9	14.4	14.7	15.0