

INDRA 3B ESR

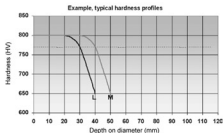
Forged Steel

Chemical composition

	C	Mn	Si	Cr	Mo	Ni
INDRA3 B ESR	0.85	0.40	1.50	2.50	0.25	-

Properties

Max hardness	HV	900
Yield strength (Core)	(MPa)	500-700
Young's modulus	(GPa)	210
Options hardness depth	L (Low) M (Medium)	



Comparative properties

	Wear resistance	Grindability	Resistance to incidents
INDRA3 B ESR	—	—	—
INDRA2	—	—	—

Description

Forged steel with 2.5% chromium manufactured according to Åkers specification.

Tempered martensite with homogeneous distribution of fine carbides. Well determined level of retained austenite. Compressive residual stresses in the working layers.

The steel is refined in an electric arc furnace (EAF) followed by ladle metallurgy and vacuum degassing.

The EAF ingot is then further refined by ESR (Electro Slag Remelting).

The ingot is forged with high forging ratio. Homogenizing and normalizing heat treatment are applied on the forged blank to obtain suitable mechanical properties in the core and necks.

The roll barrel is then induction hardened and tempered to obtain a hard and wear resistant surface layer, the depth of which can be varied according to requirements by careful selection of the hardening parameters.

Applications

Work rolls for cold rolling of ferrous and non ferrous products.

Features & Benefits

- INDRA3 B ESR is often used for work rolls that are subjected to high surface temperatures as a result of skidding and cobbles.
- Good wear resistance.
- Well adapted for texturing.
- No axial bore required.

Edition 0905

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