



ALPHA 3 (ESR)

Forged High Speed Steel

Chemical composition

	C	Cr	Mo	W	Co	V
ALPHA3	1.2	4.1	5.0	6.2	-	3.0
ALPHA1	0.8	4.0	8.5	1.7	-	1.2
ALPHA2	0.9	4.2	5.0	6.5	-	1.9
ALPHA4	1.3	4.2	4.5	5.5	-	4.0
ALPHA7	1.0	4.0	8.6	1.8	-	1.9

Standards; AISI M3:2. Werkstoff 1.3344. JIS SKH53.

Properties

	Hardness HRC
ALPHA3	≤ 66
ALPHA1	≤ 65
ALPHA2	≤ 64
ALPHA4	≤ 66
ALPHA7	≤ 66

	Density g/cm ³	Young's modulus GPa
ALPHA3	8.0	225

Description

Conventional medium alloyed high speed steel manufactured according to Union Electric Åkers specification.

ALPHA3 is also available further refined by ESR (Electro Slag Remelting).

ALPHA3 is supplied in through hardened condition.

Applications

Work rolls in 20-high mills for cold rolling of ferrous and non ferrous products.

Smaller diameter 2-high and 4-high narrow strip mill work rolls for cold rolling of ferrous and non ferrous products.

Features & Benefits

- High hardness.
- High wear resistance.
- High thermal shock resistance.
- ALPHA3 is particularly recommended for high wear and thin gauge applications.

Comparative properties

	Wear resistance	Toughness	Grindability
ALPHA3	—————	—————	—————
ALPHA1	—————	—————	—————
ALPHA2	—————	—————	—————
ALPHA4	—————	—————	—————
ALPHA7	—————	—————	—————

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