Union Electric Åkers
Forged and Cast Rolls

Product Data
SECTION MILL ROLLS

FORSA 6A and FORSA 6B

Forged Steel

Chemical composition

	C	Mn	Si	Cr	Mo	Ni
FORSA 5	**0.4 – 0.6**	**0.7 – 0.9**	**0.3 – 0.4**	**0.5 – 0.6**	**0.1 – 0.2**	**- -**
FORSA 4A	0.3 – 0.5	0.7 – 0.9	0.3 – 0.4	0.9 – 1.1	0.2 – 0.25	- -
FORSA 4B	0.3 – 0.5	0.7 – 0.9	0.3 – 0.4	0.9 – 1.1	0.3 – 0.35	- -
FORSA 5A	0.4 – 0.6	0.7 – 0.9	0.3 – 0.4	0.9 – 1.1	0.2 – 0.25	- -
FORSA 5B	0.4 – 0.6	0.7 – 0.9	0.3 – 0.4	0.9 – 1.1	0.3 – 0.35	- -
FORSA 6A	0.5 – 0.7	0.3 – 0.5	0.3 – 0.4	0.9 – 1.1	0.2 – 0.25	- -
FORSA 6B	0.5 – 0.7	0.3 – 0.5	0.2 – 0.4	1.4 – 1.6	0.3 – 0.35	- -
FORSA 8A	0.7 – 0.9	0.3 – 0.5	0.2 – 0.4	1.4 – 1.6	0.2 – 0.25	- -
FORSA 8B	0.7 – 0.9	0.3 – 0.5	0.2 – 0.4	1.4 – 1.6	0.3 – 0.35	- -
FORSA 8BN	0.7 – 0.9	0.3 – 0.5	0.3 – 0.4	1.4 – 1.6	0.3 – 0.35	0.6 – 0.8
FORSA 3CN	0.3 – 0.4	0.3 – 0.5	0.2 – 0.4	1.5 – 2.5	0.4 – 0.5	1.5 – 2.5

Properties

	Hardness HB	Tensile strength MPa	Elongation %
FORSA 5	**200-240**	**700-800**	**>16**
FORSA 4A	220-260	750-900	>14
FORSA 4B	240-300	800-1000	>14
FORSA 5A	240-300	800-1000	>14
FORSA 5B	240-320	800-1100	>14
FORSA 6A	240-320	800-1100	>12
FORSA 6B	270-320	900-1100	>14
FORSA 8A	280-320	950-1100	>10
FORSA 8B	280-320	950-1100	>12
FORSA 8BN	270-320	950-1100	>14
FORSA 3CN	240-300	800-1000	>18

Comparative properties

	Fire crack resistance	Toughness	Wear resistance
FORSA 5	***	**	*
FORSA 4A	**	**	*
FORSA 4B	***	**	*
FORSA 5A	**	**	**
FORSA 5B	***	**	**
FORSA 6A	**	**	**
FORSA 6B	***	**	**
FORSA 8A	**	*	***
FORSA 8B	***	*	***
FORSA 8BN	****	**	***
FORSA 3CN	****	****	**

Features & Benefits

- Very good fire crack resistance
- Very good wear resistance

Description

Forged steel alloyed with Cr and Mo with a fine perlitic or bainitic structure
(heat treatment is specially adapted for grade and required microstructure)

Applications

Work rolls in intermediate stands of heavy section mills

Work rolls in roughing stands with high thermal and mechanical fatigue

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