

FORSA 8BN

Forged Steel

Chemical composition

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

- Excellent wear resistance
- Good resistance to rotating deflection
- Excellent fire crack resistance

Description

Hyper-eutectoid forged steel alloyed with Ni, Cr and Mo with a perlitic or bainitic microstructure and homogeneously distributed fine secondary carbides

Applications

Work rolls in 2-high roughing or intermediate stands of rail and billet mills
Work rolls for roughing and intermediate stands in rod and light section mills

Recommendation

This roll material requires a sophisticated cooling system to prevent thermal cracking of the surface