

Austenitic-Ferritic (Duplex) Casting Materials

material		delivery specification	ASTM A890/A995	technological properties (at room temperature)				max. operation temperature ¹⁾ [°C]
JUNKER	DIN-number			Rp 0.2 [N/mm ²]	Rm [N/mm ²]	A5 [%]	A ISO-V [Joule]	
AF21NMN	1.4470	DIN EN 10213 DIN EN 10283	4A - CD3MN UNS J92205	≥ 420	600 - 800	≥ 20	≥ 30	300
AF26N	1.4347	DIN EN 10283	-	≥ 420	≥ 590	≥ 20	≥ 30	300
AF27NMN	1.4460	-	3A - CD6MN UNS J93371	≥ 420	≥ 650	≥ 20	≥ 30	300
AF25NM	1.4468	DIN EN 10283	-	≥ 480	≥ 650	≥ 22	≥ 50	300
AF25NMK I	1.4515	SEW 410	-	≥ 480	650 - 850	≥ 22	≥ 60	300
AF25NMK	1.4517	DIN EN 10213 DIN EN 10283	-	≥ 480	650 - 850	≥ 22	≥ 50	300
AF27NM	1.4469	DIN EN 10213 DIN EN 10283	-	≥ 480	650 - 850	≥ 22	≥ 50	300
AF27NMK I	9.4469 (1.4469)	-	5A - CE3MN UNS J93404	≥ 515	≥ 690	≥ 18	-	300
AF25NMKW	1.4508	DIN EN 10213	6A - CD3MWCuN UNS J93380	≥ 480	650 - 850	≥ 22	≥ 50	300
AF27NC	1.4340	SEW 410	-	-	-	-	-	20 - 300
CD4MCu	-	-	1A - CD4MCu UNS J93370	≥ 485	≥ 690	≥ 16	-	300
CD4MCuN	-	-	1B - CD4MCuN UNS J93372	≥ 485	≥ 690	≥ 16	-	300
CE8MN	-	-	2A - CE8MN UNS J93345	≥ 450	≥ 655	≥ 25	-	300

¹⁾ The use at low temperatures is possible for most of the materials if careful metallurgy is applied.

Delivery condition: solution annealed, quenched.

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Werkstoff		analysis (%)								pitting resistance equivalent*
JUNKER	DIN-number	C	Si	Mn	Cr	Ni	Mo	Cu	N	
AF21NMN	1.4470	≤ 0.03	≤ 1.0	≤ 2.0	21.0 - 23.0	4.5 - 6.5	2.5 - 3.5	≤ 0.5	0.12 - 0.20	31.1 - 37.7
AF26N	1.4347	≤ 0.05	≤ 1.5	≤ 1.5	25.0 - 27.0	5.5 - 7.5	-	-	0.10 - 0.20	26.6 - 30.2
AF27NMN	1.4460	≤ 0.05	≤ 1.0	≤ 2.0	25.0 - 28.0	4.5 - 6.0	1.3 - 2.0	-	0.05 - 0.20	30.0 - 37.8
AF25NM	1.4468	≤ 0.03	≤ 1.0	≤ 2.0	24.5 - 26.5	5.5 - 7.0	2.5 - 3.5	-	0.12 - 0.25	34.6 - 42.0
AF25NMK I	1.4515	≤ 0.03	≤ 1.0	≤ 2.0	24.5 - 26.5	5.5 - 7.0	2.5 - 3.5	0.8 - 1.3	0.12 - 0.25	34.6 - 42.0
AF25NMK	1.4517	≤ 0.03	≤ 1.0	≤ 1.5	24.5 - 26.5	5.0 - 7.0	2.5 - 3.5	2.75 - 3.5	0.12 - 0.22	34.6 - 41.5
AF27NM	1.4469	≤ 0.03	≤ 1.0	≤ 1.0	25.0 - 27.0	6.0 - 8.0	3.0 - 5.0	≤ 1.30	0.12 - 0.22	36.8 - 47.0
AF27NMK I	9.4469 (1.4469)	≤ 0.03	≤ 1.0	≤ 1.5	24.0 - 26.0	6.0 - 8.0	4.0 - 5.0	-	0.10 - 0.30	40.0 - 47.3
AF25NMKW	1.4508	≤ 0.03	≤ 1.0	≤ 1.0	24.0 - 26.0	6.5 - 8.5	3.0 - 4.0	0.5 - 1.0**	0.20 - 0.30	40.0 - 44.0
AF27NC	1.4340	0.30 - 0.50	≤ 2.0	≤ 1.5	26.0 - 28.0	3.5 - 5.5	-	-	-	-
CD4MCu	-	≤ 0.04	≤ 1.0	≤ 1.0	24.5 - 26.5	4.7 - 6.0	1.75 - 2.25	2.75 - 3.25	-	30.2 - 33.9
CD4MCuN	-	≤ 0.04	≤ 1.0	≤ 1.0	24.5 - 26.5	4.7 - 6.0	1.7 - 2.3	2.7 - 3.3	0.10 - 0.25	31.7 - 38.1
CE8MN	-	≤ 0.08	≤ 1.5	≤ 1.0	22.5 - 25.5	8.0 - 11.0	3.0 - 4.5	-	0.10 - 0.30	34.0 - 40.8

*) PREN = pitting resistance equivalent: $\%Cr + 3.3 \times \%Mo + 16 \times \%N_2$ PREN-value < 40: duplex-alloy PREN-value > 40: superduplex-alloy

**) W (tungsten) = 0.5 - 1.0 %

Application area: corrosion resistant, high strength.

Small abstract of all cast alloys of Otto Junker.