

Investment casting materials

Heat-resistant steels



Designation	Material no.	Standard	Common heat treatment condition	Mechanical-technological characteristics			Hardness	Application/ particular use case
				0,2-Yield strength RP _{0,2}	Tensile strength RM (MPa)	Elongation A ₅ (%)	Glow hardness (HB)	
G X 40 CrSi 13	1.4729	DIN 17465 EN 10295	annealed		490-750	≈4	200-300	for parts in industrial oven construction
G X 25 CrNiSi 18 9	1.4825	DIN 17465 EN 10295	cast or annealed	≥ 230	≥ 450	≥ 15	130-200	for parts in industrial oven construction
G X 15 CrNiSi 25 20	1.4840	SEW 595	cast or annealed	205	440-640	15	≤ 230	for parts in oven and apparatus construction, up to 1,100°C in oxidizing atmospheres
G X 40 CrNiSi 25 20	1.4848	SEW 595 EN 10295	cast or annealed	≥ 220	≥ 450	≥ 8	150-220	for parts with low mechanical stress, up to approx. 900°C
G X 40 NiCrSi 38 18	1.4865	DIN 17465 EN 10295	cast or annealed	≥ 220	≥ 420	≥ 8	150-220	for parts in industrial oven construction

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Designation	Material no.	Standard	Common heat treatment condition	Mechanical-technological characteristics				Impact work (ISO-V)	Thermal expansion 20°C – 300°C	Application/ particular use cases
				0,2-Yield strength		Tensile strength RM (MPa)	Elongation A ₅ (%)	Notched bar impact work (J)	Thermal expansion α (10 ⁻⁶ K ⁻¹)	
				20°C	590°C					
G X 20 CrCoMoV 12 21	1.4912		tempered		≥ 340	780-980	≥ 10			heat-resistant and hydrogen pressure-resistant castings for the chemical industry; Rp0.2 min. 340 MPa at 500 °C
GS C 25	1.0619	DIN 17245 EN 10213	tempered	≥ 245		440-590	≥ 22	≥ 27	13,4	fittings
G X 22 CrMoV 12 1	1.4931	EN 10213 EN 10293	tempered	≥ 590	≥ 340	740-880	≥ 15	≥ 21	11,5	turbine construction; components that are exposed to rapid temperature changes (temperature shock)
G X 15 CrNiCo 21 20 20	1.4957	WL 1.4957	casting condition		≥ 250	650-850	≥ 10		15,8	aviation; turbines/ air blades; combustion chambers, valves; up to approx. 730 °C; for further data see supplement 1 to 1.4957; scale-resistant up to high temperature: approx. 980 °C; stainless
	1.4971	ASTM A567	or annealed							
GS 16 CrMo 4	1.7242		tempered	≥ 345		540-690	≥ 15			for castings up to max. 530 °C application temperature can also be used as case-hardening steel
GS 17 CrMo 55	1.7357	EN 10213 EN 10293	tempered	≥ 315	≥ 180	490-640	≥ 20	≥ 27	13,4	turbine construction, pressure vessels, steam boiler construction
GS 17 CrMoV 5 11	1.7706	EN 10213	tempered	≥ 440	≥ 300	590-780	≥ 15	≥ 27	13,4	