

Material specification sheet

Saarstahl - 20Mn5

Material No.:	Former brand name:	International steel grades:
1.1133	Atrix 101	BS: 120M19 AFNOR: 20M5 SAE: 1022, 1518

Material group: High temperature constructional steel according to DIN EN 10269

Chemical composition: (Typical analysis in %)	C	Si	Mn	Cr	other
	0,20	0,50	1,15	-	-

Application: High temperature constructional weldable steel for forgings and pipes of boiler plants and for constructions of apparatus, pressure vessels and pipelines.

Hot forming and heat treatment:	Hardening:	870 - 900°C
	Tempering:	580 - 680°C

Mechanical Properties:

Condition of delivery: Quenched and tempered

Effective wall thickness [mm]	<=250	250 - 500
0,2% proof stress R_{p0,2} [N/mm²]	min. 295	min. 275
Tensile strength R_m [N/mm²]	490 - 640	490 - 640
Fracture elongation longitudinal A₅ [%]	min. 22	min. 21
Fracture elongation tangential A₅ [%]	min. 19	min. 18
Fracture elongation transverse A₅ [%]	min. 15	min. 14
Notch impact energy longitudinal DVM [J]	min. 48	min. 48
Notch impact energy tangential DVM [J]	min. 34	min. 34
Notch impact energy transverse DVM [J]	min. 24	min. 24