

Ferrous & Non - Ferrous Metals Service Temperature

Metals

Steel / Iron

Material-No. DIN EN 10 027-2	Material abbreviation DIN EN 10 027-1 (DIN 17 006)	Designation Trade Name	Designation to AISI/ASTM/SAE	Hardness HB	Tensile Strength N/mm ²	Yield Strength N/mm ² resp. proof stress	Temperature Range ¹⁾ °C		spec. Weight g/cm ³	Marks = punch mark I = notch
							from	to		
1.0038	S235JRG2	Structural steel	A 570 Gr. 36	100-130	340-470	215	-40	+450	7.85	
1.0330	DC01[FeP01]	Structural steel	A 366	90-120	270-410	140	-10	+450	7.75	
1.0330	DC01[FeP01]	Steel, zinc-plated by electrolysis	A 366	90-120	270-410	140	-60	+500	7.75	
-	(St-special steel)	Steel aluminium-plated	-	90-120	270-370	140	-40	+400	7.80	
1.0425	P265GH	Pressure vessel steel	-	130-180	410-530	215	-60	+480	7.85	
1.0566	P355NL1	Fine grained steel	-	130-180	470-610	315	-110	+400	7.85	
1.1003	(M2/Armco)	Pur iron e.g. Armco	Soft-Iron	90-110	170-350	190	-60	+450	7.85	
-	Stw24 modified ⁵⁾	Soft iron	Soft-Iron	90-110	70-400 ⁶⁾	190 ⁶⁾	-60	+450	7.85	
1.4016	X6Cr17	Stainless steel	430	130-170	450-600	240	-20	+350	7.70	I
1.4301	X5CrNi18-10	Stainless steel	304 (304H)	130-180	520-720	210	-200	+550 ²⁾	7.90	IIII
1.4401	X5CrNiMo17-12-2	Stainless steel	316	130-180	520-670	220	-200	+550	7.95	.
1.4404	X2CrNiMo17-12-2	Stainless steel	316L	120-170	520-670	220	-200	+550	7.95	
1.4435	X2CrNiMo18-14-3	Stainless steel	316L	120-170	520-670	220	-200	+550	7.98	
1.4541	X6CrNiTi18-10	Stainless steel	321	130-190	500-700	200	-270	+550 ²⁾	7.90
1.4550	X6CrNiNb18-10	Stainless steel	347	130-190	500-700	200	-200	+550	7.90	IIIIII
1.4571	X6CrNiMoTi17-12-2	Stainless steel	316Ti	130-190	520-670	220	-270	+550	7.98	III
1.4828	X15CrNiSi20-12	Heat-resistant steel	309	130-220	500-750	230	-110	+800 ³⁾	7.90
1.4876	X10NiCrAlTi32-21	Heat-resistant steel Incoloy 800	B 408, B 409	130-220	500-750	210	-110	+850 ⁴⁾	8.00	
1.5415	16Mo3	Heat-resistant pressure vessel steel	A 204 Gr. A / 4017	140-170	440-590	260	-20	+530	7.85	.
1.7335	13CrMo4-5	Heat-resistant structural steel	F12	150-180	440-590	275	-60	+560	7.85	..
1.7362	12CrMo19-5	Steel, res. to hydrogen u. pressure	F5	170-220	590-740	390	-40	+650	7.85	I
-	(12CrMo195)	Modified for RTJ	similar F5	120-140	590-740 ⁶⁾	390 ⁶⁾	-40	+650	7.85	
1.7380	10CrMo9-10	Heat-resistant structural steel	A 182 - F22	130-180	470-620	270	-40	+590	7.85	

Non-Ferrous Metals

Material-No.	Material abbreviation	Designation Trade Name	Designation to AISI/ASTM/SAE	Hardness HB *HV	Tensile Strength N/mm ²	Yield Strength N/mm ² resp. proof stress	Temperature Range ¹⁾ °C		spec. Weight g/cm ³	Marks x= notches
							from	to		
(2.0060)	E-Cu 57	Copper	-	35-70	200-250	90	-270	+350	8.93	
(2.0090)	SF-Cu	Copper	-	35-70	200-250	90	-270	+350	8.94	
(2.0321)	CuZn 37	Brass "Ms63"	-	60-100	290-370	140	-200	+300	8.44	
2.4060	Ni 99,6	Nickel 99,6	-	80-150	340-400	140	-60	+600	8.90	
2.4066	Ni 99,2	Nickel 99,2 alloy 200	N 162,	80-150	380-450	160	-60	+600	8.90	x
2.4360	NiCu 30 Fe	Monel 460 Niccorros, Silverin	B 127, alloy 400	100-160	450-580	200	-60	+500	8.88	xx
2.4816	NiCr 15 Fe	Inconel 600	B 168	140-200	550-800	200	-60	+600	8.42	
EN AW-1050A	EN AW-AL 99,5	Aluminium	-	20-45	65-150	50	-250	+300	2.70	
EN AW-5754	EN AW-AL Mg3	Alu-alloy series 5000	-	52-87	190-290	80	-250	+300	2.70	
3.7025	Ti 99,8	Titanium I	B 348 Gr. 1	110-160	290-410	180	-60	+300	4.50	
3.7035	T 99,7	Titanium II	B 348 Gr. 2	120-180	390-540	250	-60	+350	4.50	
-	Ag 99,97	Pure silver	-	25-45*	150-250	25	-270	+750	10.50	
-	Ag 99,85 Ni 0,15	Fine grained silver	-	45-65*	180-300	55	-270	+750	10.50	

1) The effect of medium and stress-conditions is of great significance in the temperature stability.

2) up to 4) Heat or scale-resistant; 2) up to 850 °C; 3) up to 1000 °C; 4) up to 1150 °C

5) Modification of material 1.0335 DD13 according DIN EN 10111; 6) Maximum value at the given hardness.