Heat-treatment conditions for EN 10216-2:2024 grades

en-10216

Steel grade	Steel number	Heat treatment	Austenitizing temperature	Cooling medium	Tempering temperature	Cooling medium after tempering
P195GH	1.0348	+N[b]	880 °C to 940 °C	air	—	—
P235GH	1.0345	+N[b]	880 °C to 940 °C	air	—	—
P265GH	1.0425	+N[b]	880 °C to 940 °C	air	—	—
20MnNb6	1.0471	+N[b]	900 °C to 960 °C	air	—	—
16Mo3	1.5415	+N[b]	890 °C to 950 °C	air	—	—
8MoB5-4	1.5450	+N[b]	920 °C to 960 °C	air	—	—
14MoV6-3	1.7715	+NT[bc]	930 °C to 990 °C	air	680 °C to 730 °C	air
10CrMo5-5	1.7338	+NT[bc]	900 °C to 960 °C	air	650 °C to 750 °C	air
13CrMo4-5	1.7335	+NT[bc]	900 °C to 960 °C	air	660 °C to 730 °C	air
10CrMo9-10	1.7380	+NT[bc]	900 °C to 960 °C	air	680 °C to 750 °C	air
11CrMo9-10	1.7383	+QT	900 °C to 960 °C	air or liquid	680 °C to 750 °C	air
25CrMo4	1.7218	+QT	860 °C to 900 °C	air or liquid	620 °C to 680 °C	air
20CrMoV13-5-5	1.7779	+QT	980 °C to 1030 °C	air or liquid	680 °C to 730 °C	air
15NiCuMoNb5-6-4	1.6368	+NT[c]	880 °C to 980 °C	air	580 °C to 680 °C	air
7CrWVMoNb9-6	1.8201	+NT[d]	1040 °C to 1080 °C	air	730 °C to 780 °C	air
7CrMoVTiB10-10	1.7378	+NT[d]	980 °C to 1020 °C	air	730 °C to 770 °C	air
X11CrMo5+I	1.7362+I	+I	890 °C to 950 °C	furnace atmosphere	—	—
X11CrMo5+NT1	1.7362+NT1	+NT1	930 °C to 980 °C	air	730 °C to 770 °C	air
X11CrMo5+NT2	1.7362+NT2	+NT2[c]	930 °C to 980 °C	air	710 °C to 750 °C	air
X11CrMo9-1+I	1.7386+I	+I	950 °C to 980 °C	furnace atmosphere	—	—
X11CrMo9-1+NT	1.7386+NT	+NT[c]	890 °C to 950 °C	air	720 °C to 800 °C	air
X10CrMoVNb9-1	1.4903	+NT[c]	1040 °C to 1090 °C	air	730 °C to 780 °C	air
X10CrWMoVNb9-2	1.4901	+NT[c]	1040 °C to 1090 °C	air	730 °C to 780 °C	air
X11CrMoWVNb9-1-1	1.4905	+NT[c]	1040 °C to 1080 °C	air	740 °C to 780 °C	air
X20CrMoV11-1	1.4922	+NT[c]	1020 °C to 1080 °C	air	730 °C to 780 °C	air
X10CrSiCuMoNi9-2-1	1.7392	+NT[c]	910 °C to 950 °C	air	730 °C to 770 °C	air
X12CrCoWVNb12-2-2	1.4915	+NT[c]	1040 °C to 1080 °C	air	760 °C to 800 °C	air
X13CrCoWMoVNbBN11-2-2	1.4965	+NT[c]	1070 °C to 1170 °C	air	760 °C to 800 °C	air
X10CrMoVNb11	1.4927	+NT[c]	1060 °C to 1100 °C	air	750 °C to 790 °C	air

Page note / source: Symbols and table notes: +N = normalizing; +NT = normalizing + tempering; +QT = quenching + tempering; +I = isothermal annealing. Footnote b includes normalized forming, for which the 2024 edition gives 880 °C to 1000 °C . For grades marked c , quenching and tempering may be necessary when T > 10 mm or T/D > 0.15 ; for grades marked d , the wall-thickness threshold is T > 16 mm . Tubes treated this way use the supplementary symbol +QT .

Source: EN 10216-2:2024, Table 1 - Heat treatment conditions; national adoption SIST EN 10216-2:2025 - iTeH Standards catalog.