MATERIAL DATA SHEET

STEEL GRADE

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20MnVS6 All

General Information

20MnVS6 is a micro-alloyed steel for general purposes and usage in the as rolled condition.

7260 (280) is a micro-alloyed steel for general purposes. It is continuously cast.The chemical analysis meets the standardized grades 19MnVS6 according to EN10267 and mechanical properties according to the former DIN standard 20MnV6 (1.5217).

7266 (280M) is continuously cast and has a fine grain size.

7252 (280M+) By a fair increase of the sulfur content a further increase in machinability can be achieved for this variant.

M-Steel®

The basis for the concept is that non-metallic inclusions are modified and controlled with calcium treatment in a way to minimize tool wear and to maximize chip control in machining operations. Our M-Steel treatment can be applied to any steel grade.

Similar designations

19MnVS6, 1.5217, 1.1301

Chemical composition

Variant	Cast	Di	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Mo %	V %	Cu %
7252	CC	1.89	CEV 0.54_{max}	Min	0.17	0.20	1.30	-	0.020	0.25	-	0.080	-
			Pcm 0.32_{max}	Max	0.22	0.50	1.60	0.035	0.050	0.50	-	0.140	0.35
7260	CC	1.95	CEV 0.54_{max}	Min	0.15	0.15	1.20	-	0.015	-	-	0.080	-
			Pcm 0.31_{max}	Max	0.22	0.80	1.60	0.030	0.040	0.30	-	0.150	-
7266	CC	2.14	CEV 0.56_{max}	Min	0.16	0.25	1.30	-	0.015	0.25	-	0.070	-
			Pcm 0.31_{max}	Max	0.22	0.50	1.55	0.025	0.035	0.50	-	0.110	-
EN 10267 19MnVS6	Std		CEV $_{max}$	Min	0.15	0.15	1.20	-	0.020	-	-	0.080	-
			Pcm $_{max}$	Max	0.22	0.80	1.60	0.025	0.060	0.30	0.08	0.200	-

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Elongation A_5 [%]	Reduction of area Z_{min} [%]	Hardness	Impact (ISO-V) $strength_{min}$
7252	+AR	Round bar	40 < 100	520*	650-800	18	-	< 230 HB	-20 °C 27 J (long)
		Round bar	25 < 160	-	-	-	-	< 240 HB	-
7260	+AR	Round bar	45 < 80	450*	550-750	20	40	< 220 HB	20 °C 27 J (long)
		Round bar	80 < 160	410*	550-700	20	40	< 220 HB	20 °C 27 J (long)
7266	+AR	Round bar	45 < 120	450*	600-750	16	32	< 220 HB	0 °C 27 J (long)
		Round bar	120 < 160	410*	600-750	20	32	< 220 HB	0 °C 27 J (long)

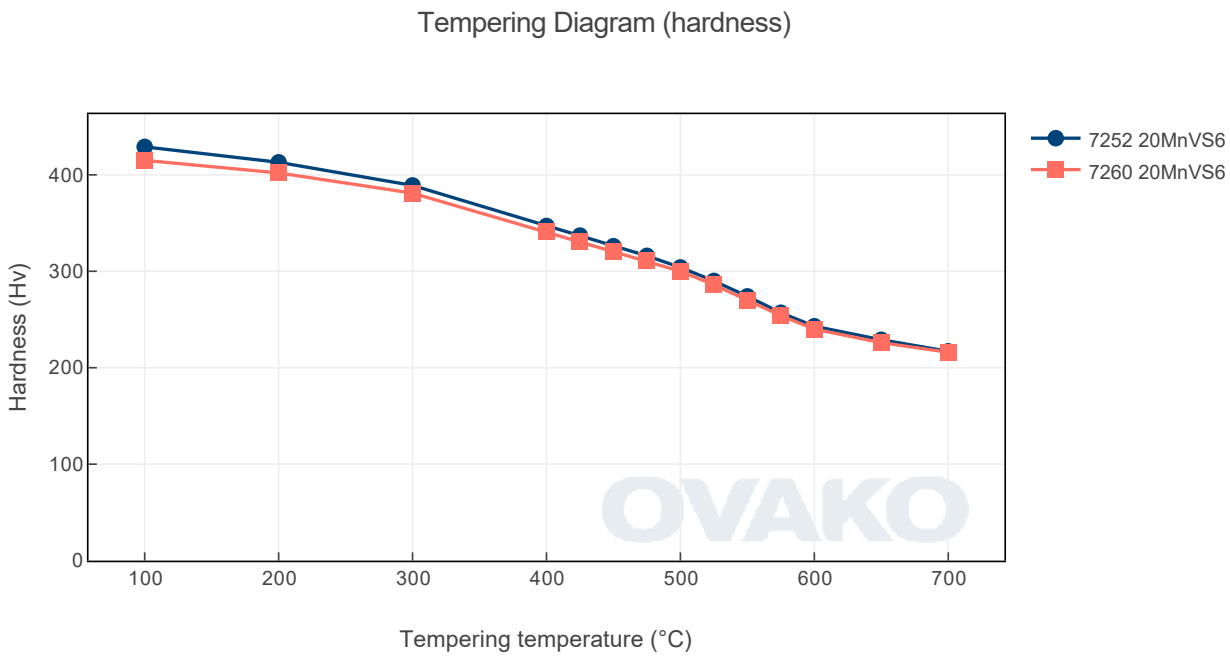
*$Rp_{0.2}$ * R_{eh}, ** R_{el}*

Transformation temperatures

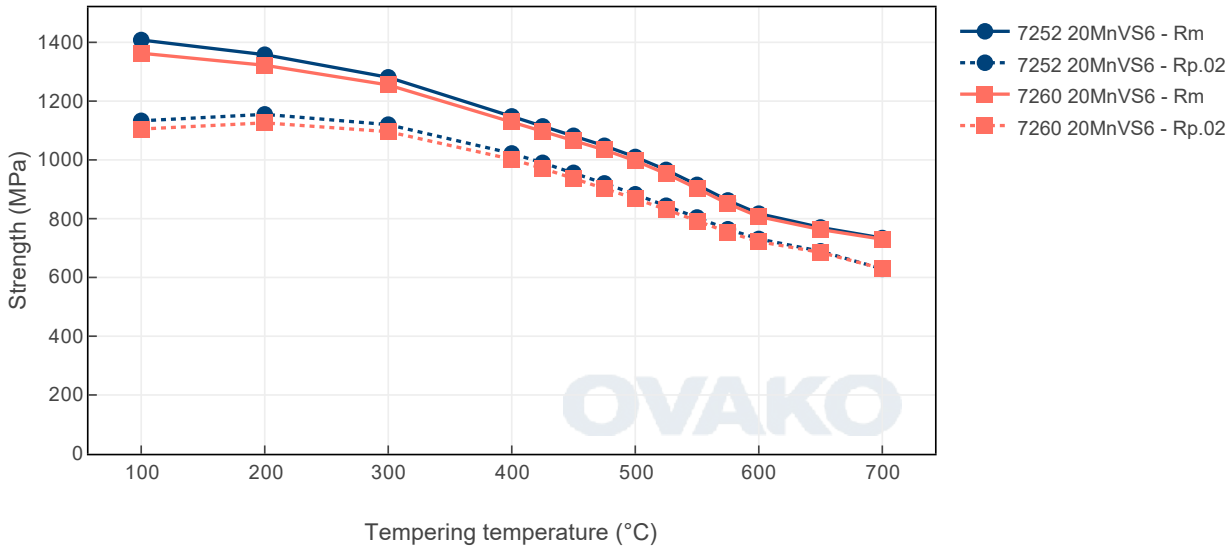
	Temperature °C
MS	401
AC1	719
AC3	842

Heat Treatment Guide generated Graphs

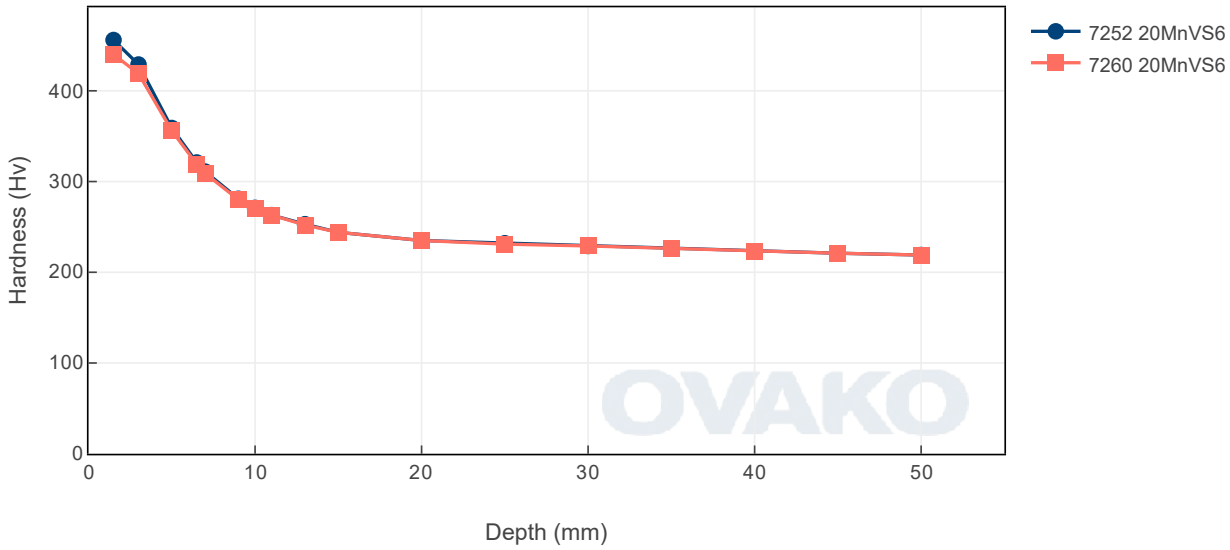
The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.



Tempering Diagram (strength)



Jominy


Hardness (Hv)
400
300
200
100
0
0
10
20
30
40
50
Depth (mm)
7252 20MnVS6
7260 20MnVS6
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SUSTAINABILITY-ENVIRONMENTAL IMPACT DATA

At Ovako sustainability and reduction of our environmental impact is a major focus in everything we do.
Further information is found here.

Steel works	Hofors	Smedjebacken	Imatra
CO2e/kg	120	62	76

To get the full picture of our products environmental impact we have to look at all of our CO_2 emission sources.
Not only the steel work Scope 1-2 itself, but all operations downstream in our production, heating and heat treatment furnaces etc (full scope 1-2) as well as all the emission from input material, eg. alloys, scope 3.

Steel Grade	Format	Condition	Scope 1-3 (CO2e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO2e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
7252	Round bar	+AR	512	220
7266	Round bar	+AR	516	225
7260	Round bar	+AR	514	223

All above data are to be seen as typical values for the specified format and condition. Detailed information about your specific product please contact your sales contact.

Other properties (typical values)

Youngs module (GPa)	Poisson´s ratio (-)	Shear module (GPa)	Density (kg/m3)
210	0.3	80	7800
Average CTE 20-300°C (µm/m°K)	**Specific heat capacity 50/100°C (J/kg °K)**	**Thermal conductivity Ambient temperature (W/m°K)**	**Electrical resistivityAmbient temperature (µΩm)**
12	460 - 480	40 - 45	0.20 - 0.25

Contact us

Would you like to know more about our offers? Don´t hesitate to contact us:

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For more detailed information please visit http://www.ovako.com/en/Contact-Ovako/