Material data sheet
Steel grade

Last revised: Tue, 07 Feb 2023 13:51:23 GMT

16Mn5 All

General Information

2720, also known as Hydax 15 has high sulfur content to further improve the machinability of M-steel. Mechanical properties fulfil the requirements of the standard EN 10025-2 steel grade S355J0.

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.

Chemical composition

Variant	Cast	Di	Weldability		C %	Si %	Mn %	P %	S %	V %
2720	CC	0.8	CEV 0.43_{max}	Min	0.10	0.15	1.00	0.000	0.090	0.020
			Pcm 0.26_{max}	Max	0.20	0.55	1.60	0.035	0.150	0.090

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) $strength_{min}$
2720	+AR	Round bar	25 < 40	345*	490-630	22	45	< 180 HB	-20 °C 27 J (long)
		Round bar	40 < 80	335*	490-630	21	45	< 180 HB	-20 °C 27 J (long)
		Round bar	80 < 90	315*	490-630	20	45	< 180 HB	-20 °C 27 J (long)
		Round bar	95 < 200	315	490-630	20	45	< 180 HB	0 °C 27 J (long)

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

Transformation temperatures

	Temperature °C
MS	417
AC1	692
AC3	842

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.

In many international comparisons the crude steel Scope 1-2 emission is a key parameter, ie. the CO_2 emission from the steel works itself.
As of 1 January 2022 we carbon offset all our scope 1 and 2 volume shown below.

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)
Hydax 15, 2720	Round bar	+AR	791	265

As of 1 January 2022 we use carbon offset for all our scope 1- 2 emissions, so in practice the climate compensated data is the same as the full Scope 3 level.
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

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