Material data sheet
Steel grade

Last revised: Wed, 18 Jan 2023 10:51:38 GMT

OVAKO

30CrMo4* All

General Information

30CrMo4* is a Cr and Mo alloyed quench and tempering steel with low to medium carbon content according to SAE 4130. This grade combine high strength with high toughness. Also suitable for flame or induction hardening.

- 322D - Is an ingot cast low sulphur steel
- 322Q - Is an IQ (isotropic quality) variant

IQ-Steel®

IQ-Steel® is an isotropic quality ultra clean steel optimized for high fatigue strength under multi axial loading.

Similar designations

25CrMo4, 34CrMo4

Chemical composition

Variant	Cast	Weldability		C%	Si%	Mn%	P%	S%	Cr%	Ni%	Mo%
322D	IC	CEV 0.74_{max}	Min	0.28	0.20	0.40	-	-	0.90	-	0.18
		Pcm 0.47_{max}	Max	0.33	0.35	0.60	0.025	0.010	1.10	0.25	0.25
322Q	IC	CEV_{max}	Min	0.29	0.20	0.60	-	-	0.90	0.15	0.20
		Pcm_{max}	Max	0.32	0.35	0.70	0.010	0.002	1.10	0.25	0.25

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) $strength_{min}$
322D	+QT	Tube,wall	< 25	600	730 typical	23	70	225 HB typical	20 °C 193 J (long)
		Tube,wall	< 25	600	730 typical	23	70	225 HB typical	-20 °C 183 J (long)
		Tube,wall	< 25	600	730 typical	23	70	225 HB typical	-40 °C 176 J (long)

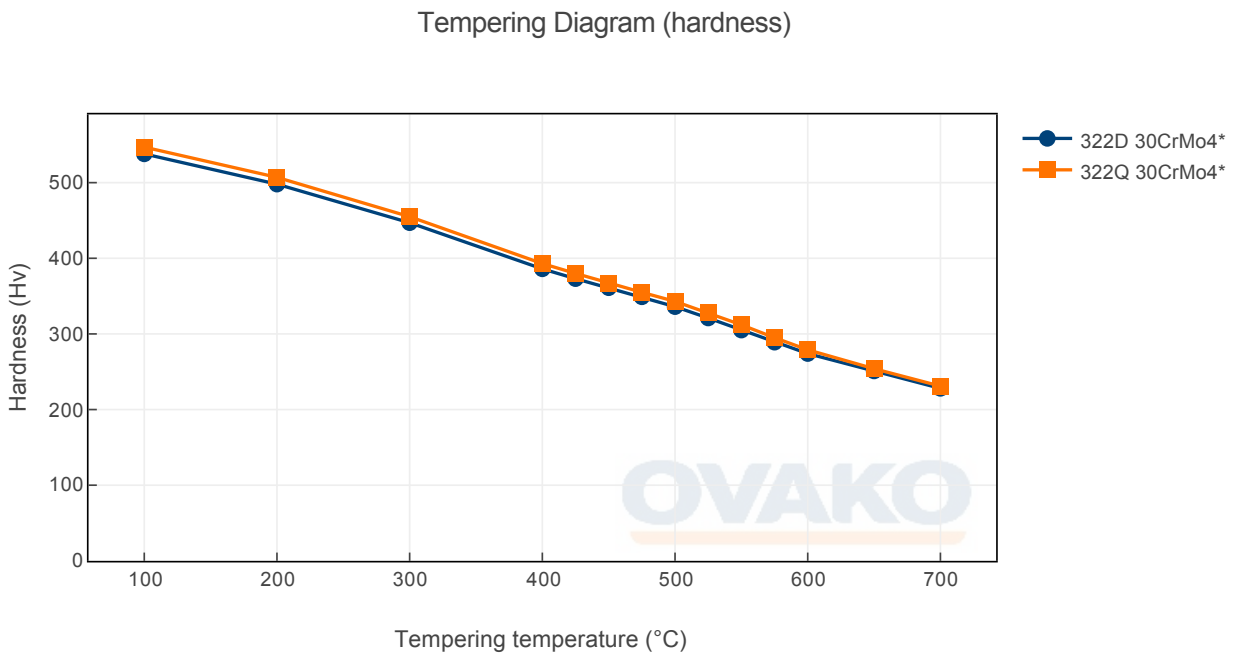
$Rp_{0.2}$ * R_{eh}, ** R_{el}

Transformation temperatures

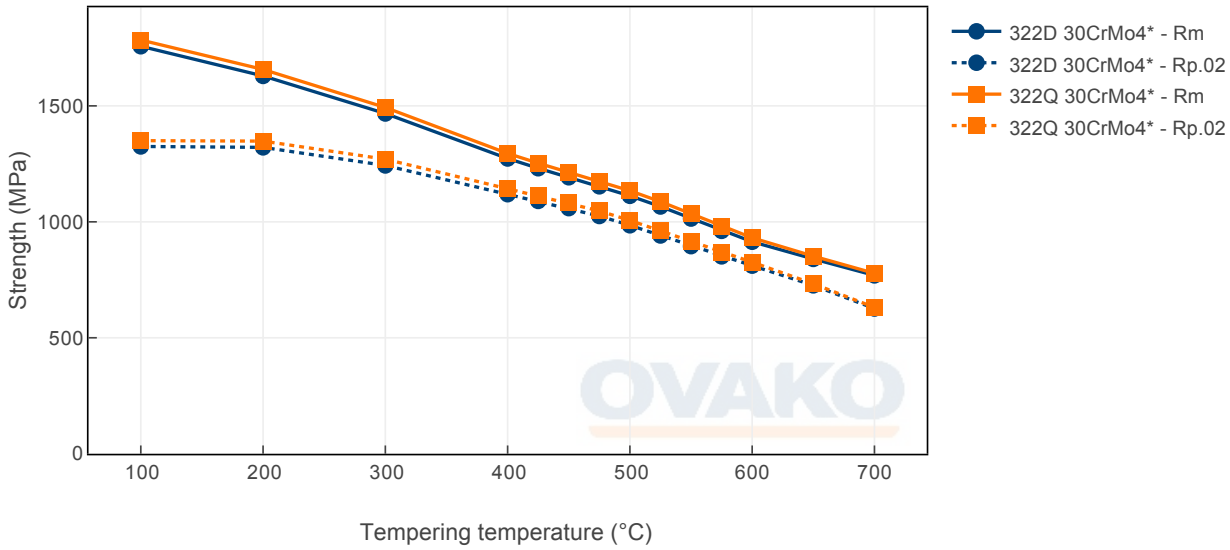
	Temperature °C
MS	391
AC1	746
AC3	826

Heat Treatment Guide generated Graphs

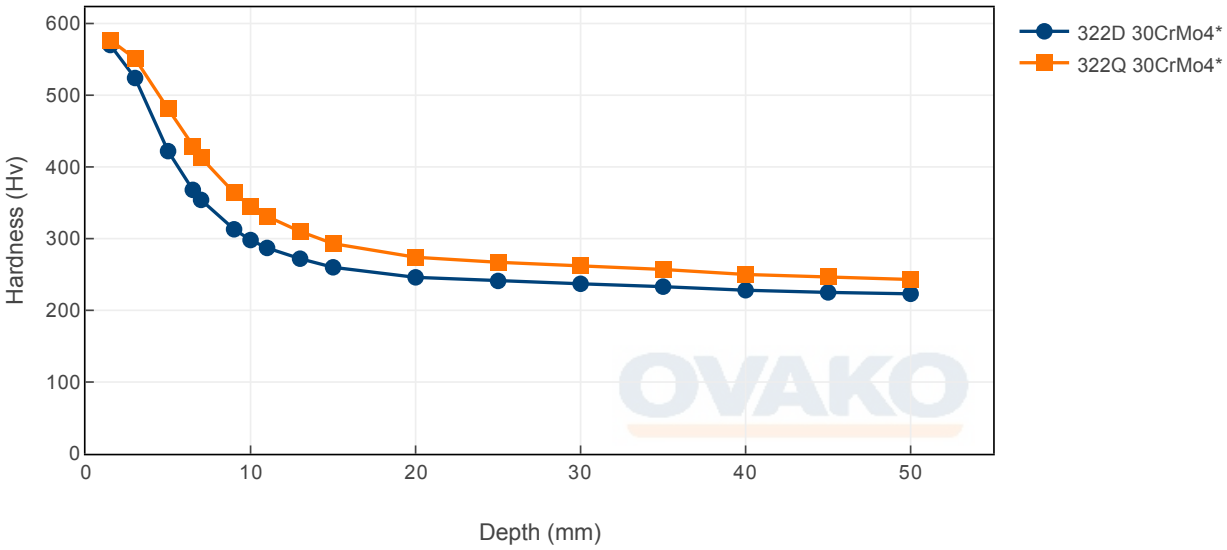
The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.



Tempering Diagram (strength)

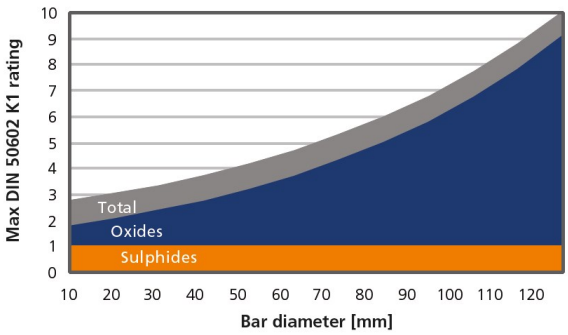


Jominy


Hardness (Hv)
600
500
400
300
200
100
0
0
10
20
30
40
50
Depth (mm)
322D 30CrMo4*
322Q 30CrMo4*

IQ

Inclusion limits IQ-processed steel



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

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