

100CrMo7-4 All

General Information

Ovako 826 is a through hardening bearing steel that is mainly used for medium sized bearing rings, but it can also be used for machine components that require high tensile strength, hardness and toughness.

826B - Bearing quality (BQ) variant

- Through hardenability corresponding to a ring with approximately 50mm wall thickness ($\approx\varnothing 80$ mm bar), quenched in oil
- Suitable for martensitic or bainitic hardening
- Good machinability in soft annealed condition
- Good dimensional stability

For additional Heat Treatment Data, please visit the Heat Treatment Guide.

BQ-Steel®

(Bearing Quality) is a bearing quality clean steel optimized for fatigue strength by a strict control of steel cleanliness. BQ-steel is also ideal for new design solutions in a wide array of demanding applications outside the bearing industry that require longer performance and higher loads. The BQ-steel offer is the result of the Ovako clean steel program. Purity of production means that the material has significantly smaller inclusions compared to conventional steel and, as a result, the fatigue strength of the steel is increased dramatically. Use of the material allows components to be manufactured in smaller sizes. The BQ-steel has for decades been the problem-solver.

Similar designations

A485 (B7)

Chemical composition

Variant	Cast		C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %
826B	IC	Mn	0.93	0.25	0.60	-	0.005	1.65	-	0.40
		Max	1.05	0.35	0.80	0.025	0.015	1.95	0.25	0.50

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Hardness
826B	+SA	All formats	30 < 190	-	-	180-220 HB
	+Q/T(m)	Ring, wall	< 50	1700	2300 typical	61 HRC typical
	+Q/T(b)	Ring, wall	< 50	2000	2200 typical	59 HRC typical

$R_{p0.2}$ * R_{eh} , ** R_{el}

Transformation temperatures

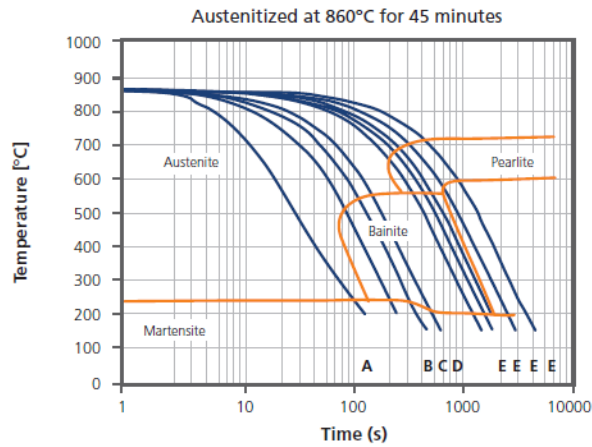
	Temperature °C
MS	233
AC1	750
AC3	750

Heat treatment recommendations

Treatment	Condition	Temperature cycle	Cooling/quenching
Hot forging	+U	800-1100C	In air
Normalizing	+N	880-910C	In air
Soft annealing	+SA	*Normalizing is recommended prior to Soft Annealing, RT-820C 1-2h, 820C 2-5h, 820-740C 1h, 740-690C 12h,	In air
Stress relieve annealing	+SRA	550-650C 2h	In air
Q/T (martensite)	+Q/T(m)	830-880C 20-60min	In oil (temper within 2h)
Q/T (bainite)	+Q/T(b)	850-880C 20-60min	Salt bath
Tempering	+T	160-500C	In air

CCT

Other properties (typical values)



	A	B	C	D	E	F	G	H
$t_{0.5}$ [s]	25	80	120	170	400	590	800	1200
Hv ₃₀	860	813	647	500	428	406	385	336

Steel cleanliness

Micro inclusions - Ovako 826B								Macro inclusions - Ovako 826B	
Applied standard	ASTME45							Applied standard	ISO 3763 (Blue fracture)
Sampling	ASTMA295							Sampling	Statistical testing on billets.
Maximum average limits	A		B		C		D		
	Th	He	Th	He	Th	He	Th	He	
	2,0	1,5	0,5	0,1	0	0	0,2	0,1	
Limits								Limits	< 2,5 mm/dm ²
Youngs module (GPa)	Poisson's ratio (-)				Shear module (GPa)				Density (kg/m ³)
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 resistivity Ambient temperature (µΩm)
12	460 - 480				40 - 45				0.20 - 0.25

Contact us

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

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