

Material data sheet

Steel grade

A809B
A810
Last revised: Thur, 09 Mar 2017

85MnCrV5* All

General Information

Steel grade A810 is our standard grinding ball steel steel with a hardness in quenched and tempered condition between 62–66 HRC. The grade A809B offers an improved toughness suitable for sizes above 35 mm. Grinding balls manufactured by Forsbacka kulverk maintain the same wear resistance from start to finish

Chemical composition

Variant	Cast		C %	Si %	Mn %	P %	S %	Cr %	V %
A810	CC	Min	0.79	0.15	0.65	-	-	0.15	0.050
		Max	0.88	0.35	0.95	0.030	0.030	0.30	0.110

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
A810	+QT	Round bar	20 < 39	63–66 HRC
		Round bar	40 < 70	62–66 HRC
	+AR	Round bar	20 < 70	290–340 HB

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

Transformation temperatures

Variant	Temperature °C
MS	170
AC1	730
AC3	740

Heat treatment recommendations

Treatment	Condition	Temperature cycle	Cooling/quenching
Hot forging	+AR	Soaking 900–1050°C	
Tempering	+QW	Tempering at 150–200°C	In air

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 resistivity Ambient temperature (µΩm)
12	460–480	40–45	0.20–0.25

Contact us

Would you like to know more about our offers?

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