Novelis HOKOTOL®

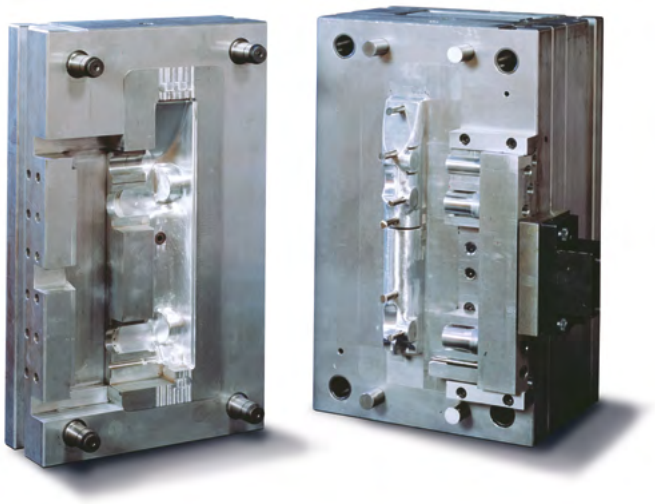
The alloy with a high grade of hardness for best possible polishability

Customized Aluminum Solutions for Aerospace and Industrial Plate

With more than 55 years of experience and know-how, we serve a variety of end-use industries, and are among the world´s leading suppliers of high-quality aluminum rolled products. Novelis is helping our customers meet regional demand through two certified plants in Koblenz, Germany and Zhenjiang, China; and we believe that it´s a win-win situation for all parties when we bring our customers further.

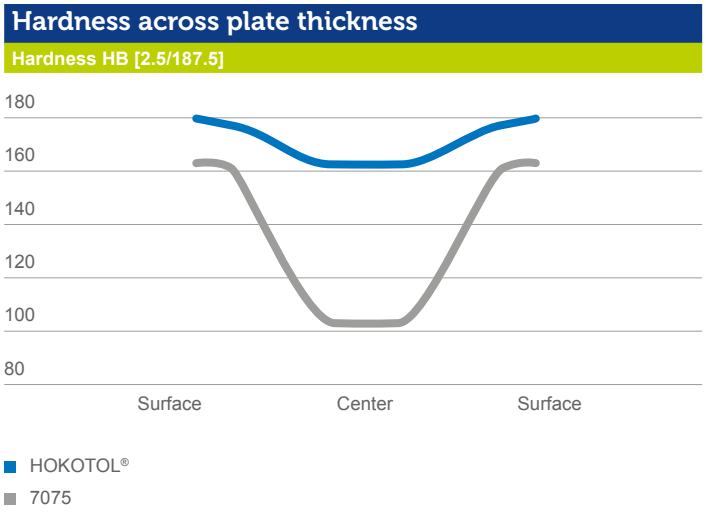
Hardness

HOKOTOL® has been developed to ensure a high grade of hardness across the entire plate thickness. This in an advantage when surfaces have to be polished or machined away. Polished surfaces are often used in translucent elements like headlamps, spotlights or lamp housings.



Characteristics

- Consistent hardness across the entire thickness
- Good grinding & polishability for surface critical components / optical surfaces
- Very good thermal conductivity
- Extremely uniform mechanical properties across the entire thickness
- High dimensional stability due to low residual stress
- Excellent machinability



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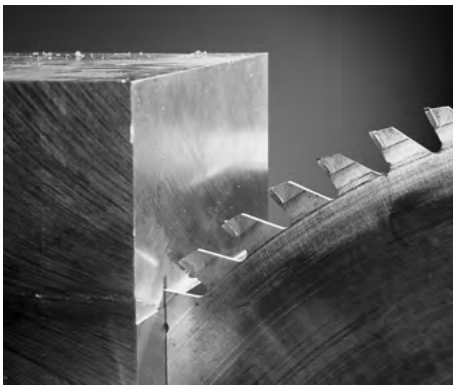

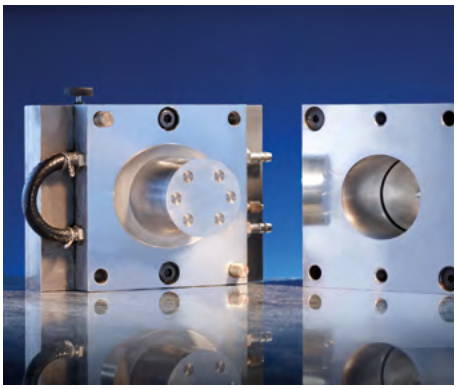

Chemical composition [all data wt.-%]

Alloy		Chemical elements									Other individual	Other total
		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Zr		
HOKOTOL®	min.	-	-	1.5	-	1.8	-	5.7	-	0.08	-	-
	max.	0.3	0.35	2.6	0.1	2.6	0.05	7.6	0.06	0.25	0.05	0.15

Physical properties in comparison to steel

Property	Hardness [HB]	Density [g/cm³]	E-Modulus [MPa]	Coefficient of thermal expansion 20 - 100 °C [10^{-6}/K]	Thermal conductivity at room temperature [W/(m·K)]	Electrical conductivity at room temperature [MS/m]
HOKOTOL®	180	2.83	73,800	23.5	154	23
Steel 1.2312 (40CrMnMoS8-6)	300	7.85	215,000	12.5	35	10.3
Comparison Al : St	**1 : 1.7**	**1 : 2.8**	**1 : 2.9**	**1.9 : 1**	**4.4 : 1**	**2.2 : 1**

Minimum strength properties for various thicknesses[1]

Thickness [mm]	Tensile strength R_m [MPa]	Yield strength $R_{p0.2}$ [MPa]	Elongation A [%]
8 - 100	550	495	4
>100 - 140	530	475	2
>140 - 180	500	430	1
>180 - 220	490	420	1

[1]Measured at room temperature, test direction LT

Typical strength properties for various thicknesses[1]

Thickness [mm]	Tensile strength R_m [MPa]	Yield strength $R_{p0.2}$ [MPa]	Elongation A [%]
8 - 100	590	545	10
>100 - 140	575	525	7
>140 - 180	565	505	6
>180 - 220	550	495	4

[1]Measured at room temperature, test direction LT

Delivery program

Thickness [mm]	Width [mm]	Length [mm]
8 - 100	2,000	10,000
>100 - 140	1,550	7,500
>140 - 180	1,225	7,500
>180 - 190	1,150	7,200
>190 - 200	1,100	6,800
>200 - 210	1,050	6,500
>210 - 220	1,000	6,000

Further dimensions upon request via info.molding@novelis.adityabirla.com.

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