

NOVELIS is the world's largest producer of rolled aluminum and the global leader in beverage can recycling. We are a growth-oriented company, drawing upon our industry-leading technology and expertise to develop and deliver an expanding portfolio of premium rolled aluminum products. Novelis is an important part of the worldwide Aditya Birla Group of companies. By partnering with our customers to bring innovative products to market, by being a leader in recycling, and by operating with a mindset of sustainability, **Novelis makes the world lighter, brighter and better.**

www.novelis.com



**Novelis Deutschland GmbH**

Werk Nachterstedt  
 OT Nachterstedt  
 Gaterslebener Strasse 1  
 D-06469 Stadt Seeland  
 tel +49 3 47 41 77-0  
 fax +49 3 47 41 77-1259  
 www.novelis.com

Certified to DIN EN ISO 9001, ISO/TS 16949, DIN EN ISO 14001, EMAS, OHSAS 18001  
 All the information and technical data given reflect the situation and our experience on the date when this brochure went to print. We reserve the right to make changes.

# NOVELIS

## Coil anodised J73A<sup>®</sup>

### J73A<sup>®</sup> Product datasheet

Novelis J73A is the continuous anodised material using J57S as the substrate, specially designed for the demanding requirements of modern architectural applications - from large facades requiring more than one production batch to internal decoration. The chemical composition of the alloy is specifically designed to achieve a distinctive metallic appearance after anodising.

#### 1 GENERAL PRODUCT PROPERTIES

- Non flammable according to 96/603/EG and non combustible according to DIN 4102
- Non compatible with foodstuff according to DIN EN 14392
- Highly recyclable

#### 2 PHYSICAL PROPERTIES

Young's modulus:	approx. 70.000 MPa
Density:	approx. 2,7 t/m <sup>3</sup>
Thermal expansion coefficient:	0,0236 mm per Kelvin and meter
Weldability*:	good to moderate with SG-ALMg3

\*(Welding is likely to cause localised removal of the anodic layer which may result in micro-cracking)

#### 3 CHEMICAL COMPOSITION ACCORDING TO EN 573 PART 3

Alloy: J57S (DIN EN AW 5005A AlMg1-B)

Composition in weight percentage (max.)									
Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	other	total
0.30	0.70	0.20	0.20	0.5-1.1	0.10	0.25	0.05	0.05	0.15

#### 4 MECHANICAL PROPERTIES

Sheet thickness: 1.0 - 3.0 mm (Temper H14)

##### Strength values

Strength values according to EN 485-2				
Temper	Thickness (mm)	Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>	Elongation A <sub>50</sub>
H14	1.0 - 1.5	145 - 185 MPa	≥ 120 MPa	≥ 2 %
H14	2.0 - 3.0	145 - 185 MPa	≥ 120 MPa	≥ 3 %

Typical strength values (no warranty)

Temper	Thickness (mm)	Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>	Elongation A <sub>50</sub>
H14	1.0 - 1.5	170 MPa	160 MPa	4 %
H14	2.0 - 3.0	170 MPa	160 MPa	5 %

**Bending radii at 90°:**

R = 1 x t: The inner bending radius (R) is equal to the sheet thickness (t). Please note: Due to the hardness of the anodic film, crazing can occur during extreme bending or forming. To minimise the effect more information is available on request.



**Bending test at 180° according to EN ISO 7438:**

Comparison of the standard quality AW 5005A with the anodising quality J57S as base material for J73A.

Thickness 2.0 mm : R = 1.0 (0.5 x t)

Thickness 3.0 mm : R = 1.2 (0.4 x t)



AW 5005A

J57S

AW 5005A

J57S

**5 DIMENSIONS AND TOLERANCES**

**Sheets**

Sheet sizes	Thickness (mm)				
	1.0	1.5	2.0	2.5	3.0
1.000 mm x 2.000 mm	■	■	■	■	■
1.250 mm x 2.500 mm	■	■	■	■	■
1.500 mm x 3.000 mm	■	■	■	■	■
2.000 mm x 4.000 mm	■	■	■	■	■

Dimensional tolerances for width, length, flatness and squareness in accordance with the DIN EN 485 part 4.

**6 ANODIC LAYER**

- consisting of aluminium oxide / hydroxide
- excellent colour and gloss uniformity also for different batches
- anodising E6/EV1 (natural finish) with a layer thickness of min. 20 µm on the upper side
- the anodic layer becomes an inherent part of the aluminium surface and is harder than the aluminium
- layer thickness inspection according to ISO 2360
- typical gloss value by 60° according to ISO 6719: 35 to 45 units
- sealing testing according to ISO 2143 resp. ISO 3210

**7 SURFACE**

- printed UV-resistant 80 µm protective film
- Coil-I.D. (batch number) is printed on the bottom in the rolling direction of the sheets
- decorative surface is warranted for the upper side acc. ISO 7599
- lightly oiled on the top surface
- surface is inspected for freedom from defects after the anodising process according to ISO 7599
- Novelis cleaning and processing guidelines should be followed

**8 CORROSION RESISTANCE**

The following corrosion tests are carried out to confirm the excellent corrosion resistance of the anodised surface:

- Neutral salt spray test 1.008 h according to ISO 9227
- Kesternich test 1.000 h according to ISO 6988 (SO<sub>2</sub> Atmosphere)
- UV test 1.000 h according to ISO 11341
- Weathering test 1.000 h (tropical test) according to DIN 50017

Depending on the process micro-cracks can occur transverse to the rolling direction but, the corrosion resistance remains unaffected.

J73A is corrosion resistant in the pH range from ~ 5.5 to 8.

A filiform corrosion cannot occur due to the joined anodic layer.

**9 PACKAGING UNITS**

The packaging units have a target weight of approx. 1t. Depending on the length of the coil strip, smaller packages can be produced.

Packages are identified with the orange label J73A on the tab.

Changes due to technical progress are reserved - July 2011

