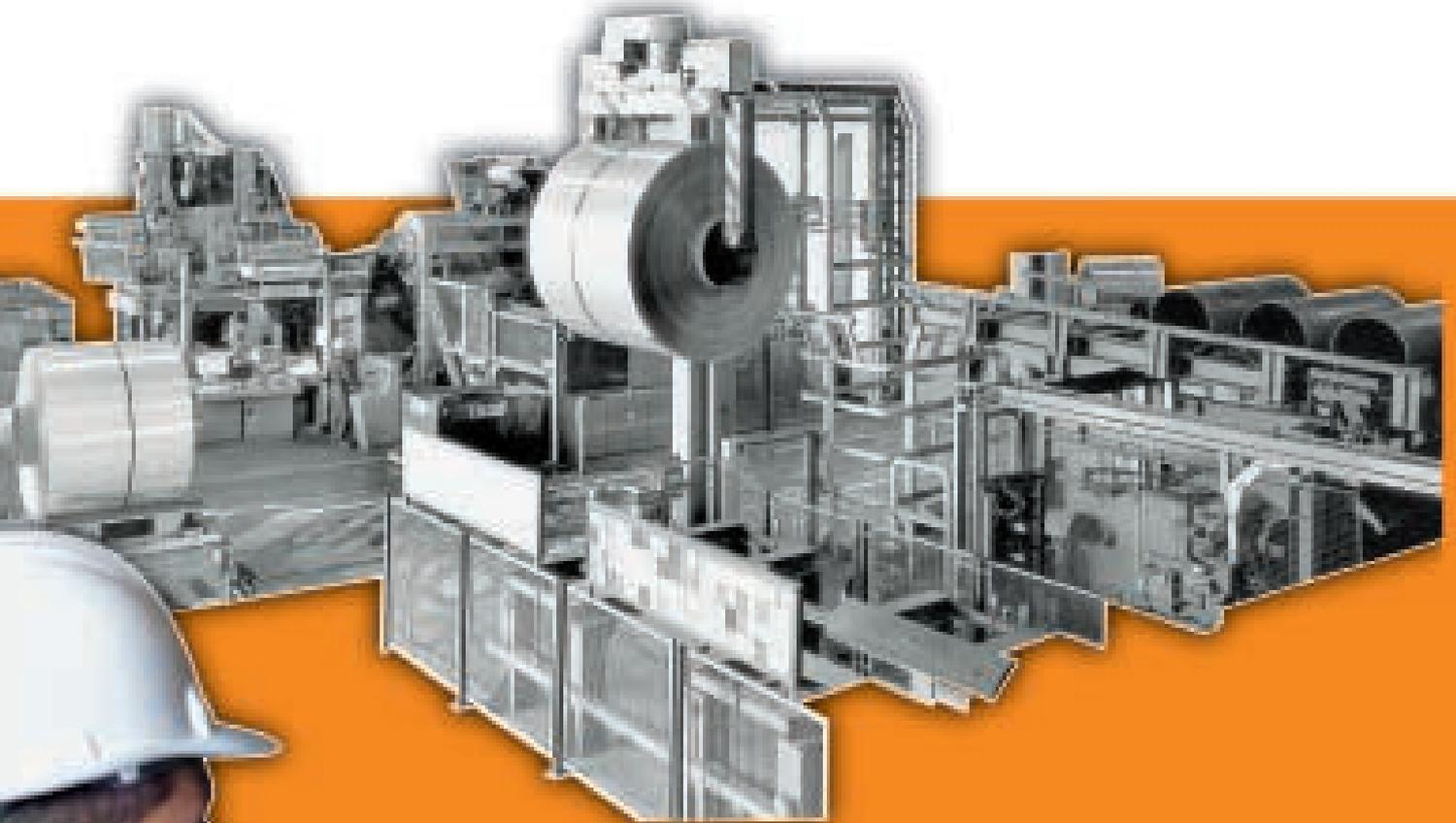


WINDY®

Prepainted aluminium sheet
polyamide paint for building
and industrial applications





Novelis Inc. is world leader in aluminium rolling and cans recycling. Novelis owns 37 operating facilities in 12 countries, with more than 13.000 employees.

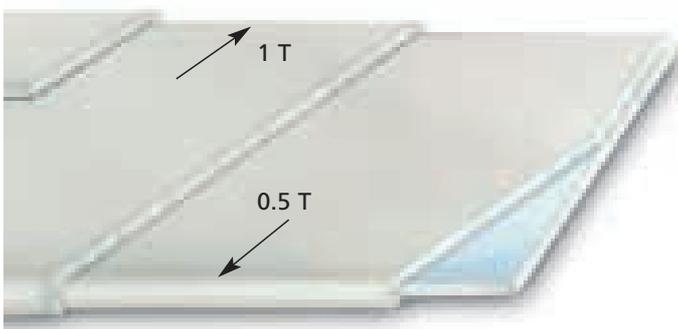
Thank to its presence in Asia, Europe, North and South America, Novelis is able to deliver value-added aluminium rolled products and services to customers worldwide.

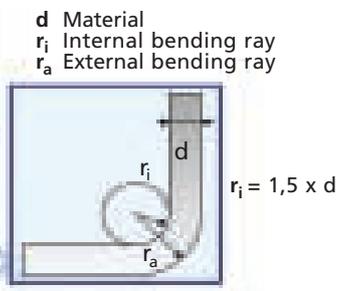
Novelis supplies aluminium rolled products to different markets, including Building, Transport, Beverage and Food Cans, Industry, Lithography and Printing.

Novelis Group is an important reality in Italy, too. There are two plants near Milan - Bresso and Pieve Emanuele - and one near Turin - Borgofranco d'Ivrea. Novelis' Bresso plant produces pre-painted rolled products using a range of paints and surface finishes. Pieve plant produces aluminium coil and sheet. It is equipped with casters and cold rolling facilities. Finally, at its plant in Borgofranco d'Ivrea, Novelis recycles scrap aluminium. Novelis is present on the whole Italian market thank to its four sales centres in Verona, Bologna, Florence and Rome.



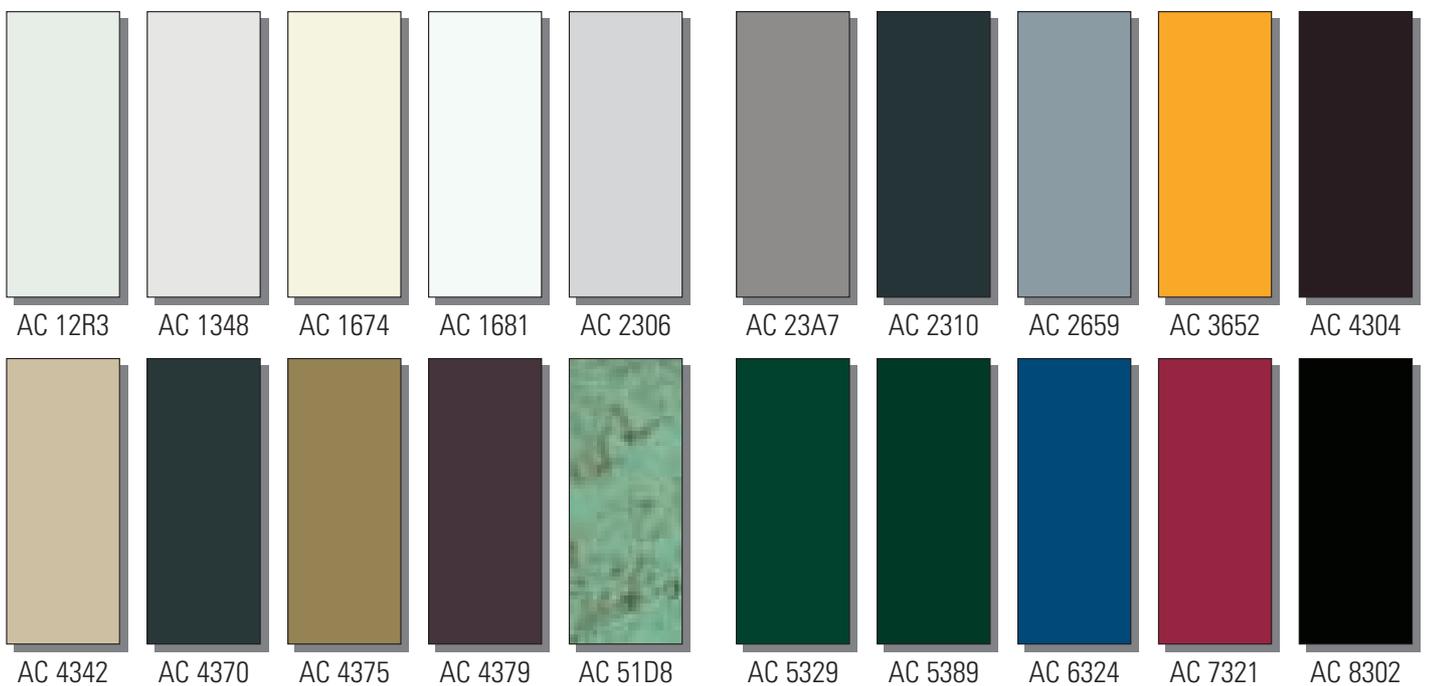
WINDY® is the Novelis brand name for its aluminium coils which have been pre-painted with polyamide paints. WINDY® is used in the building industry, especially in facade cladding, but also in windows frames. The excellent formability, the good bending behaviour of the product and the good resistance to UV rays make WINDY® particularly versatile and adaptable to different architectural solutions and industrial applications.





WINDY® is protected with polyamide paints and it is characterised by an excellent resistance to corrosion caused by weathering. Additionally, it has a superb resistance to the rays of the sun, above all UV rays, which cause colour degradation. WINDY® guarantees excellent overall corrosion resistance thanks to a protective primer laid on the reverse side.

Excellent bending behaviour: WINDY® is produced with rolled aluminium coils in alloy EN AW-5005; thanks to its physical-chemical characteristics. WINDY® is particularly suitable for bending operations. Polyamide paint has a high modulus of elasticity and it creates, with aluminium, an ideal partner for the most rigorous architectural and industrial applications.



This colour chart includes proposals of pre-painted aluminium colours available in matt, demi and high gloss versions. It is possible to realise pre-painted aluminium coils on sample bases. The colours are as close as printing technique allows. We suggest to ask for an original painted aluminium sample.

| Technical Sheet - WINDY® | | | |
|--|-------|---|--|
| Product description | | | |
| Aluminium alloy: | - | EN AW-5005 | according to EN 573/3 |
| Metal gauge: | [mm] | 1.00 - 2.00 | |
| Temper: | - | H42 | according to EN 1396 |
| Coating top side: | - | Polyamide paint | accor. to int. standards |
| Backing coat: | - | Protective lacquer | accor. to int. standards |
| Metal specification | | | |
| Mechanical properties after coating - transverse to rolling direction (according to EN 1396) | | | |
| Rm: | [MPa] | 125 - 165 | |
| Rp0.2: | [MPa] | 80 min | |
| A50: | [%] | 5 min from 1.00 mm up to 1.50 mm - 6 min over 1.50 mm up to 2.00 mm | |
| Tolerance on dimensions: | | Gauge Width and Length | according to EN 485/4 according to EN 485/4 |

CERTIFICATES

Health and Safety Management System:

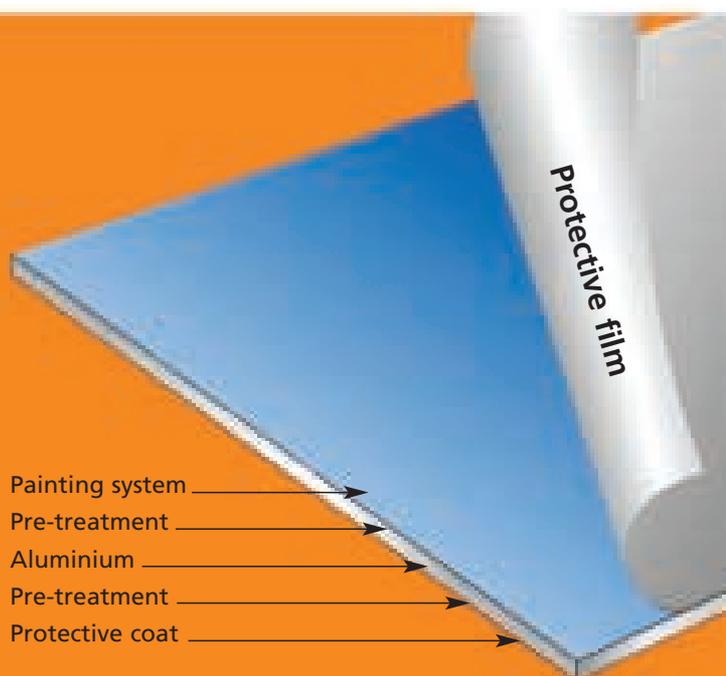
BSI OHSAS
18001; 1999

Environment Management System Certificate:

UNI EN ISO
14001; 1996

Quality Management System Certificate:

UNI EN ISO
9001; 2000



Painting system

Pre-treatment

Aluminium

Pre-treatment

Protective coat

Technical Sheet - WINDY®

Pre-treatment

Degreasing and chromium free treatment on top and reverse side

Organic coating specification (according to ECCA and EN 1396)

| | | | Top side | Backing coat |
|------------------------------------|----------|-------------|--|---------------------|
| Coating system: | | | Polyamide | Polyester |
| Typical coating thickness: | ECCA T1 | [µm] | 22 | 4 approx. |
| Pencil hardness: | ECCA T4 | KOH-I-NOR | H | not relevant |
| Specular gloss to 60°: | ECCA T2 | [units] | 10 - 60 gloss | 30 - full gloss |
| Adhesion 90°/180°: | | [%] | 100 | not relevant |
| Adhesion on cross hatch + impact: | | [%] | 100 | 100 |
| M.E.K. / Solvent rubbing test: | ECCA T11 | double rubs | 150 | > 50 |
| Resistance to rapid deformation: | ECCA T5 | [cm/kg] | 32 | not relevant |
| Resistance to cracking on bending: | ECCA T7 | - | 0.5 T from 1.00 mm up to 1.20 mm 1.0 T over 1.20 mm up to 1.50 mm 1.5 T over 1.50 mm up to 2.00 mm | |



Novelis Italia

Via V. Veneto, 106
20091 Bresso (MI)

Tel.: ++39 02 61454.1
Fax: ++39 02 61454.208
e-mail: info.bresso@novelis.com
web: www.novelispainted.com