

## AnoGrip® Type 4

## TECHNICAL DATA SHEET

**Finish Description:** Our customers asked us to develop an anodized aluminum finish that will accept all types of adhesives without having to apply a primer coat or the need to treat the surface with *Hexavalent Chrome*, a known carcinogen. AnoGrip® Type 4 is a process that offers the customer an anodized aluminum finish with exceptional adhesive qualities on both sides of the sheet that will withstand a T-peel strength of at least 20 lbs/in<sup>2</sup>. The chemical process refined by Lorin, increases the surface area creating a bondable surface that accepts many substrates such as resin soaked papers, MDF board, Plywood, PVC, and several other bonding materials.

### Reference Part Number (s)

0614-010-003

### Industry Designations

**Aluminum Association**  
AA-M12-C20-A1x

### Industry Standards

### Aluminum Properties

**Alloy:** 5052  
**Temper:** H32  
**Finish:** Mill Finish

### Mechanical Properties

**UTS:** 31-38 ksi [214 - 262 MPa]  
**YTS:** 23 min [159 MPa]  
**Elongation:** 4% min  
**T Bend:** Recommended 1t minimum

### Chemical Properties

**Si:** 0.25 %  
**Fe:** 0.40 %  
**Cu:** 0.10 %  
**Mn:** 0.10 %  
**Mg:** 2.2 - 2.8 %  
**Cr:** 0.15 - 0.35 %  
**Zn:** 0.10 %  
**Other:** 0.15 %  
**Al:** Remainder

### Stock Gauge Availability <sup>1</sup>

0.025" (0.6 mm)

### Stock Width Availability <sup>2</sup>

50.0" (1270 mm)

### Anodize Film Thickness

**Functional Anodic Layer:**  
0.010 mils [0.3 µm]

### Anodize Finish Properties

**Optical:** Not Applicable  
**Gloss:** Not Applicable  
**Color :** Clear Anodized  
**Color Target:** Not Applicable  
**UV Stable:** Not Applicable  
**Environment:** Not Applicable  
**Seal:** S7, Specially Treated HWO Seal  
**Quality Grade:** 5  
**Other:**

### Adhesion Properties

**Adhesion Quality:**  
T-Peel Strength > 20 lbs/in; Using 1.6-mil 3M DP-420 Adhesive, Cured at 230-250°F for 60 ± 5 minutes.

### Shelf-Life:

Recommended 6 months maximum

**Footnotes:** 1 - Other gauges can be custom ordered. 2 - Other widths can be custom ordered.



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### Aluminum Secondary Services

- Shearing, Width Capabilities:**  
7" (178mm) - 62" (1575 mm)
- Shearing, Length Capabilities:**  
Up to 192" (4876 mm)
- Shearing, Loading Gauge:**  
Up to 0.080" (2.0 mm)
- Slitting, Width Capabilities:**  
0.75" (19 mm) min
- Slitting, Loading Gauge:**  
Up to 0.100" (2.5 mm)
- Other Secondary Services:**  
International packaging

### Maintenance and Cleaning

The anodized aluminum finish can be washed with mild soap and water followed by a clean water rinse. For more information on cleaning anodized aluminum, please refer to the Aluminum Association Publication 92, Care of Aluminum or AAMA 609 & 610-09, Cleaning and maintenance guide for architecturally finished aluminum.

### Sustainability and LEED

- Recycled Content, 5052 alloy:**  
100% recyclable  
Post-Consumer, 0 %  
Secondary Material, 38 %  
Virgin Material, 62 %

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#### Volatile Organic Compounds:

The aluminum oxide layer does not contain any VOC's

### Availability

The standard lead time for stocked gauges and widths is two weeks for anodizing and one week for any secondary services such as slitting, shearing and applying transparent protective films or paper.

Please check availability of Non-Stocked materials by contacting our sales staff using our toll free number 800.654.1159 or email your request to [info@lorin.com](mailto:info@lorin.com). Some raw materials may have extended lead times.

### Technical Support

A staff of factory trained personnel are available to offer technical assistance. Please call our toll free number 800.654.1159 or email your question to [info@lorin.com](mailto:info@lorin.com).

### Product Support Partners

Lorin Industries works very closely with many manufacturers' in multiple markets who specialize in anodized aluminum fabrication. Our support staff can assist you if you are looking for finished components. Please call our toll free number 800.654.1159 or email your request for product and application support to [info@lorin.com](mailto:info@lorin.com).

### Warranty

A limited warranty may be available upon request. The warranty is issued on a per project basis and can be applied for on line by completing an application for warranty at [www.Lorin.com](http://www.Lorin.com)

### Anodized Finish Test Data

Characteristic	Test Method	Standard	Test Results
Oxide Layer, Weight	ASTM B137 - Coating Dissolution		Typically < 0.2 mg/cm <sup>2</sup> (1.2 mg/in <sup>2</sup> )
Adhesion Quality	ASTM D1876 - T-peel resistance test using 1.6mil 3M DP-420 adhesive	Lorin Commercial Standard	> 20 lbs/in <sup>2</sup> peel strength

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