Public works and civil construction projects often require safety covers to conceal and protect utility lines, expansion joints and drainage ditches. ALGRIP® Slip-Resistant Metal Trench and Expansion Joint Covers provide an added measure of safety by offering exceptional slip-resistance to areas where the accumulation of liquids, dirt or any other substance creates hazardous conditions. ALGRIP’s unique laser-welded deposits offer unparalleled durability and traction, making it a smart choice for high-traffic applications in workplace or public settings.
Available in a wide range of materials, sizes and finishes, ALGRIP Trench and Expansion Joint Covers are extremely versatile and used in major projects throughout the country. Ross’ patented CNC laser deposition process applies more than 1,000 rugged, custom-alloy deposits per square foot in a highly precise and uniform pattern. The superior bond strength of these deposits not only increases the useful product life, but also allows nearly any type of on-site fabrication without compromising the traction providing surface. And the smooth area between raised deposits helps deter the pooling of liquids and trapping of solids, which results in a product that exhibits exceptional self-cleaning characteristics.

ALGRIP is an ideal choice for a variety of applications requiring slip-resistant surfaces, such as:

- Sidewalks
- Roadways
- Bridges
- Platforms
- Parking garages
- Runways

**Industries**

- OSHA, FDA or USDA compliance
- Institutional
- Food Processing
- Public Works
- Industrial Manufacturing
- Mass Transit
- Utilities
- Oil and Gas
- Pharmaceuticals
- Marine
- Pulp and Paper
- Metals and Mining
- Government
ALGRIP Slip-Resistant Trench and Expansion Joint Covers are manufactured using technologically advanced machinery developed by Ross to ensure the highest level of quality and consistency. We start with the base material that best suits your application. Choose from various grades of lightweight aluminum, corrosion-resistant stainless or durable carbon steel in plate or sheet form.

Next, we laser-weld a minimum of 1,000 anti-slip deposits per square foot to the traffic side of the selected material. These welded deposits penetrate the metal substrate to produce a permanent, sub-surface bond tested to a maximum hardness of 60 on the Rockwell C Scale and a maximum static coefficient of friction of 0.97 COF in accordance with ASTM C1028-89. Finally, the plate is custom fabricated, if needed, using a variety of processes and finishes to meet your specific project requirements. The result is a solid metal cover with durability and slip resistance properties like no other.

Additional features include:

- Standard deposit height: 0.025” nominal
- A variety of materials; see substrate options

Standard Features
Material Options

- Heavy deposit height: 0.035” nominal
- Customer-specific row and deposit spacing

Substrate:
- Carbon steel
  - ASTM A36 (structural plate) or A1011 (hot rolled sheet)
  - Thickness: 14 gauge to 1-1/2”
- Stainless steel
  - ASTM A240; alloy 304 and 316
  - Thickness: 14 gauge to 1-1/2”
- Aluminum
  - ASTM B209; alloy 3003, 5052 or 6061
  - Thickness: .090” to 1-1/2”

Post-processing of ALGRIP material to customer requirements for:
- Thickness, width and length
- Center crown
- Hole location and countersink/counterbore requirements
- Beveled edges
- Corner chamfers
- Other customer-specific requirements

Finish Options:
- Carbon Steel:
  - Mill
  - Hot-dip galvanized per ASTM A123 after fabrication
- Stainless Steel:
  - 2B (sheet)
  - Mill (plate)
  - Abrasive blast matte finish
- Aluminum:
  - Mill
Risk Reward Analysis

The risk-reward calculation for safety cover products generally starts with common diamond/checker floor plate. It provides low COFs and little or no safety when wet, oily or dusty. The initial low cost is tempting, but the risk, and true cost, is high.

Products that have been treated with textured liquid coatings or adhesive-adhered products offer a fair level of safety when initially installed, but they often require continuous and costly maintenance. When subjected to wear, they can quickly deteriorate.

Flame-sprayed coatings provide only a surface treatment. While they provide good slip-resistance, fabrication can be problematic. They also present major cleaning problems because of the many cavities on the surface.

When you invest in ALGRIP Slip-Resistant Products, you have selected a safety covering that is superior in all aspects and wins the risk/reward competition hands down. Employees and employers are provided the highest level of protection from slips and falls.
### Technical Information

#### Test Results
- Tested in accordance with ASTM C1028-89, “Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method”
  - Dry Leather: 0.88 COF, Wet Leather: 0.91 COF
  - Dry Rubber: 0.94 COF, Wet Rubber: 0.92 COF
  - Dry Neolite: 0.97 COF, Wet Neolite: 0.96 COF
- Tested in accordance with ASTM F1679, “Standard Test Method for Using a Variable Incidence Tribometer (VIT)”
  - Carbon Steel: Dry surfaces: >0.99 COF, Wet surfaces: >0.93 Slip-Resistance Index
  - Stainless Steel: Dry surfaces: >0.98 COF, Wet surfaces: 0.80 Slip-Resistance Index
  - Aluminum: Dry surfaces: >0.96 COF, Wet surfaces: 0.89 Slip-Resistance Index

#### Applicable Standards
- OSHA - Subpart D of 29 CFR Part 1910 - Walking and Working Surfaces
- 2010 ADA Standards for Accessible Design (incorporates Title II regulations at 28 CFR 35.151; Title III regulations at 28 CFR part 36, subpart D; and the 2004 ADAAG at 36 CFR part 1191, appendices B and D; effective on March 15, 2012)
- 2012 International Building Code (IBC), Section 1003.4 Floor surface
Quality Control
ISO 9001:2015

Installation Considerations
Products can be fabricated, formed, cut and welded without affecting the traction-providing surface, therefore allowing for a wide range of installation methods.

Due to the high hardness of the surface, tooling used in fabricating ALGRIP products may experience wear rates higher than normal. Use of tooling designed for high hardness materials is recommended.

Availability & Cost
ALGRIP Metal Trench and Expansion Joint Covers are custom fabricated in a wide range of materials and thicknesses. Contact Ross for availability and lead times.

Warranty
Ross warrants that all of its manufactured products shall remain free of defects in material and workmanship under normal use for a period of one year from the date of delivery.

Maintenance
ALGRIP Trench and Expansion Joint Covers are virtually maintenance free, requiring little more than proper cleaning of dirt and debris from the flat, smooth area between deposits.

Technical Services
Trench and expansion joint covers designed to end user’s specifications.
Ross offers a complete line of ALGRIP Slip-Resistant Products

- ALGRIP® Metal Floor Plate
- ALGRIP® Bar Gratings
- ALGRIP® Stair Treads, Tread Repair Covers & Nosings
- ALGRIP® Ladder Rungs & Covers
- ALGRIP® Trench & Expansion Joint Covers

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