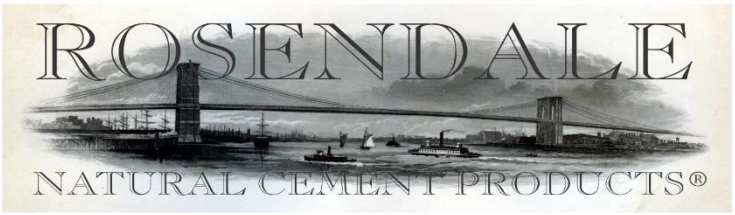
Edison Coatings, Inc.



Injection Grout 11Gi

Natural Cement Based Micro-Injection Grouts and Adhesives

DESCRIPTION

ROSENDALE & TRANSLANTIC 11Gi are pre-packaged natural cement-based injection grouts and adhesives. Grouts based on natural cement have endured for more than 135 years, even under severe coastal and seawater immersion service exposures, and feature high vapor permeability, tenacious adhesion and low modulus of elasticity. Their primary use is for filling cracks and voids in masonry. **Rosendale & Translantic 11Gi's** fineness, tenacity and flow characteristics also make them excellent general-purpose masonry adhesives.

ROSENDALE & TRANSLANTIC 11Gi grouts may be custom designed and produced to meet the special requirements of each project. Natural color or custom color-matching are available to provide aesthetic compatibility with original materials as well as long-term mechanical performance.

ROSENDALE 11Gi Natural Cement Injection Grout is ***Made In The USA*** from US and Canadian raw materials.

TRANSLANTIC 11Gi Quick-Setting Natural Cement Injection Grout is ***Made In The USA*** from US, Canadian and globally-sourced raw materials.

FEATURES

ROSENDALE & TRANSLANTIC 11Gi offer long-term performance features which are unique to natural cement products, including:

- **Controlled Initial Set**: Typical initial set time is 30-90 minutes for **ROSENDALE 11Gi**, and 10-30 minutes for **TRANSLANTIC 11Gi**. Setting time is prolonged at low temperatures and in mixtures containing higher proportions of water.

- **Non-Staining**: Na_2O equivalent of **ROSENDALE & TRANSLANTIC** Natural Cements is <0.2%, making it suitable for use in limestone and marble structures.

- **Flow**: Grouts are formulated to achieve high flow at moderate water addition levels, and ultra-fine particle size permits efficient flow into cracks down to 1 mm (1/24") in width. Reduction of water addition level allows mixture to be adjusted to any desired working consistency for use as an adhesive or to restrict flow to larger openings.

FLOW (sec), ASTM C939/C939M	
Grade	Flow (sec)
1K	33
2K	18
4K	37

- **Compressive Strength**: **ROSENDALE & TRANSLANTIC 11Gi** is available in three formulations, developing three different strength profiles listed below.

COMPRESSIVE STRENGTH (psi), ASTM C109/C109M	
11Gi Grade	Compressive Strength (psi), 28 day cure
1K	800-1000
2K	1600-2000
4K	4000-4100

- **Water Resistance**: Natural cement grouts withstand severe wind-driven rain exposures within a short time of application, facilitating installation. They are also suitable for water immersion.

- **Early Freeze Resistance**: Natural cement products that will not be subjected to freezing while saturated require only a relatively short period of protection from freezing, facilitating installation over the course of a much-extended working season in northern climates, as compared with lime and hydraulic lime products.

- **Low Modulus**: Unlike Portland cement and cement-lime grouts which tend to embrittle with time, natural cements continue to relieve stress and remain mechanically compatible with masonry substrates, even after more than a century of performance. **ROSENDALE & TRANSLANTIC 11Gi** grouts provide long service life without cracking or delamination from masonry.

- **High Permeability**: **ROSENDALE & TRANSLANTIC 11Gi** provide high rates of moisture vapor transmission, assuring that buildings and structures will "breathe", and avoiding moisture entrapment.

- **Bond**: **ROSENDALE & TRANSLANTIC 11Gi** develop tenacious bond to a wide variety of substrates, including most types of stone, masonry and concrete. Pull-Off adhesion >125 psi (0.9 MPa).

- **Customization**: **ROSENDALE & TRANSLANTIC 11Gi** grouts are produced on a made-to-order basis for each project, to meet the optimum performance levels of each application.

- **Bleed: ROSENDALE & TRANSLANTIC 11Gi** grouts meet ASTM C940 standard for bleed when mixed to proper proportions. Bleed = 0.0-0.2%.

LIMITATIONS

Cementitious grouts are not intended for use on dynamic cracks caused by structural behaviors such as ongoing settling, structural instability, thermal expansion or corrosion of embedded metals. Grouts are best selected and applied under the direction of an experienced grouting engineer.

APPLICATIONS

- **ROSENDALE & TRANSLANTIC 11Gi** grouts may be used for filling voids and cracks in historic concrete, stucco, masonry and stone.

- **ROSENDALE & TRANSLANTIC 11Gi** may also be used as a general purpose masonry adhesive, for rebonding broken units, for setting Dutchman repairs or as a base coat for natural cement and lime plasters.

- **ROSENDALE & TRANSLANTIC 11Gi** grouts may be used for repair of structural damages under the direction of a licensed professional engineer.

FORMULATION

- **ROSENDALE & TRANSLANTIC** Natural Cements are authentic natural cements produced from argillaceous limestone and conforming to the requirements of ASTM C10.

- Mineral Fillers incorporated in **ROSENADLE & TRANSLANTIC 11Gi** grouts may also be customized to meet individual project requirements. Fillers are selected to match original materials as closely as possible in color and composition and are finely pulverized natural materials.

GROUTING INSTALLATION

Grouting procedures can vary considerably from one application to another. The following are some general guidelines:

1. Loose materials, such as unbonded masonry mortar, loose bricks or delaminated concrete must be removed and replaced prior to crack injection.

2. Injection holes should be drilled to enable delivery of grout to the full length and depth of the cavity to be filled. For transverse (perpendicular to surface) crack-filling and for void injection, injection holes are typically drilled into the face of the crack or through existing mortar joints for void injection at a downward angle to a depth of ½ the masonry thickness. For filling of lateral cracks (parallel to surface, e.g., delaminating layers of sandstone or stucco), holes are generally drilled near the top and bottom of the area to be filled, beginning at the upper and lower corners and then every 3 to 9 inches along the upper and lower edges of the cavity. The lower row may be drilled square with the surface (at 90° to the wall surface). The upper row of holes should be drilled at a downward angle.

3. For filling of voids with **ROSENDALE & TRANSLANTIC 11Gi**, diameter of the holes drilled may vary with the intended method of grout delivery. For typical delivery by grout pump through ½” (12mm) pressure hose, a ¾” (18mm) hole is required. For crack injection smaller holes may be drilled. ¼” (6mm) diameter holes are sufficient for grout delivery through 1/8” (3mm) diameter tubing.

4. The amount and spacing of the holes is unique to each project and is determined by mock-ups. A typical starting point is a hole every 2 ft. Once a section of holes is drilled, water can be pumped into the wall with the grout pump and if water is able to flow out of multiple other holes, then the spacing of holes is correct. If not, then more holes are needed.

5. Once the hole spacing is determined and all holes are drilled, each hole should be flushed with water using the grout pump. All crack and void cavities must be thoroughly flushed with clean water to remove as much dirt, debris, and contaminants as possible and to pre-saturate the areas to be grouted. Continue flushing until clean water runs from the lowest port. A minimum of 20 minutes of pre-wetting should be performed prior to grouting. Repeat pre-wetting if either drying occurs prior to injection or if more than two hours elapse from the time of pre-wetting.

6. The grout pump should be constructed as to have a metal tube on the end of the hose, that will fit into the drill holes. The metal tube shall have a rubber grommet that fits tightly around the metal tube. When the metal tube is inserted into the hole, the rubber grommet should seal around the hole to prevent grout leaks and pressurize the pump. The best type of grommets are cone shaped, since each hole will be slightly different.

7. Another acceptable method is the installation of injection ports into the drill holes. The injection ports shall be compatible with the grout pump and attach and detach easily to the end of the grout hose. Refer to grout pump or injection port manufacture for proper installation procedure.

8. **ROSENDALE & TRANSLANTIC 11Gi** should be mixed for 4 minutes by paddle mixer (250-450 rpm) at the ratio of 1 bucket (16 lbs) of powder per 1 gallon of clean water. The exact amount of water is determined by mock-ups and can vary from project to project, depending on the required flow. Grout should be screened through a typical window screen to remove any unmixed clumps before pumping, that would otherwise clog the grout pump.

9. **ROSENDALE & TRANSLANTIC 11Gi** are relatively fast setting materials and sets in 30-45 minutes at 70 °F and 50% RH, so only mix enough grout that can be successfully pumped in 15-20 minutes. Once material has begun to set, it should not be re-tempered or adjusted with additional water and should be discarded.

10. Grouting should start at the bottom of the wall. Pumping should proceed through one hole until material starts to flow out of other drill holes. Holes where grout has flowed can be plugged with non-staining clay, plumbers putty or wooden dowels and then pumping should proceed from the next hole.

11. Once the grout has set, the plugs and putty can be removed and the holes filled with appropriate mortar.

12. **ROSENDALE & TRANSLANTIC 11Gi** requires wet/dry curing for a minimum of 72 hrs after installation. Consult Edison Coatings for curing guidelines for your specific project conditions.

ADHESIVE INSTALLATION

Mix with water to the desired consistency and apply to clean, dampened substrates by brush, roller, trowel, caulking gun or sprayer.

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