

**SECTION 09 00 00****SINTERED COMPACT SURFACE FINISHES**

Neolith sintered compact surfaces, manufactured by TheSize Surfaces, is a beautiful, high-performance, and thin sheet product that can be used as a finish for a variety of applications.

This guide specification section can be edited for use as:

- Section 09 30 00 – Tiling
- Section 09 62 00 – Specialty Flooring
- Section 09 70 00 – Wall Finishes.

Neolith offers another guide specification section for exterior rainscreen applications.

**DRAWING COORDINATION:** Show size and orientation of panels, and details such as joints, corners, and interfaces between Neolith and other materials.

**SPECIFICATION COORDINATION:** This document is available in word processing format at [###HYPERLINK](#). Turn on HIDDEN TEXT to view or print specifier notes. Edit to include only requirements pertinent to Project.

**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. [Sintered compact surface.]
2. [Adhesive-mounted sintered compact surface.]
3. Installation materials for sintered compact surface.
4. [\_\_\_\_\_].

**B. Related Requirements:**

1. Section [\_\_\_\_\_]: Preparation of floor substrates.
2. Section [\_\_\_\_\_]: Preparation of wall substrates.
3. [Section 079200 - Joint Sealants.]
4. [Section 07 48 00 – Rainscreen with Sintered Compact Surface Panels.]
5. [Section 12 36 00: Countertops with Sintered Concrete Surface.]
6. [\_\_\_\_\_].

**1.2 REFERENCE STANDARDS**

- A. ASTM C1028: Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method
- B. DIN 51094: Ceramic tiles - Testing of the light fastness and colour fastness of ceramic tiles for walls and floors
- C. DIN EN 13823: Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item

- D. DIN 51330: German Ramp Test.
- E. EuroNorm EN12004 - Adhesives for Tiles. Definitions and Specifications.
- F. EuroNorm EN 13888 - Grout for tiles. Requirements, evaluation of conformity, classification and designation.
- G. ISO/CD 10545 Ceramic Tiles:
  - 1. Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density.
  - 2. Part 4: Determination of modulus of rupture and breaking strength.
  - 3. Part 5: Determination of impact resistance by measurement of coefficient of restitution.
  - 4. Part 6: Determination of resistance to deep abrasion for unglazed tiles.
  - 5. Part 8: Determination of linear thermal expansion.
  - 6. Part 9: Determination of resistance to thermal shock.
  - 7. Part 10: Determination of moisture expansion.
  - 8. Part 12: Determination of frost resistance.
  - 9. Part 13: Determination of chemical resistance.
  - 10. Part 14: Determination of resistance to stains.
  - 11. Part 15: Determination of lead and cadmium given off by glazed tiles.
- H. NSF 51: Food Equipment Materials.
- I. Greenguard: UL Environmental.
- J. [\_\_\_\_\_].

### **1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Preinstallation Meetings: Require attendance by installer, manufacturer, architect, [\_\_\_\_\_] and others affected by work.
- B. Discuss quality assurance, schedules, and coordination with related work.

### **1.4 SUBMITTALS**

- A. Product Data and Manufacturer's Installation Instructions: Submit for:
  - 1. Adhesives.
  - 2. Sintered compact surface panels.
  - 3. [Grouts] [and] [joint sealants].
  - 4. [Trim and accessories.]
  - 5. [\_\_\_\_\_].
- B. Samples: Submit:
  - 1. Sintered Compact Surface:
    - a. [Samples for Selection: Submit samples of available colors and patterns.]
    - b. Samples for Verification: Submit samples of colors and patterns selected. Samples shall be 20 sq.in. minimum.
  - 2. [Grout] [and] [Joint Sealant]:
    - a. [Samples for Selection: Submit samples of available colors.]
    - b. Samples for Verification: Submit samples of colors selected.
- C. Submit installer qualifications.

### **1.5 MAINTENANCE MATERIAL SUBMITTALS**

- A. Extra Stock Materials:
  - 1. Quantity: Provide [five] [ten] [\_\_\_\_\_] pieces of each color of sintered compact surface used on project.
  - 2. Sizes: Largest size provided for Project.
  - 3. Packaging: Pack in accordance with manufacturer's instructions for long-term storage. Clearly mark contents of each package.
  - 4. Deliver to [on-site location indicated by Owner] [\_\_\_\_\_].

## **1.6 QUALITY ASSURANCE**

- A. Mock-Ups:
  - 1. Construct mock-up [as shown on Drawings.] [at least [100] [\_\_\_\_\_] sq.ft. in size.]
  - 2. Locate on site in location acceptable to Architect.
  - 3. Show proposed appearance and means of construction.
  - 4. Coordinate with mock-ups of adjacent materials specified in other sections.
  - 5. After acceptance of Work, mock-up [shall be removed.] [may remain part of Project.]

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with manufacturer's instructions.

## **1.8 FIELD CONDITIONS**

- A. Do not install when ambient conditions are outside of adhesive manufacturer's acceptable range.

## **1.9 WARRANTY**

- A. Manufacturer Warranty: Provide sintered compact surface manufacturer's warranty.
  - 1. Product: 10-year limited warranty.

## **PART 2 - PRODUCTS**

### **2.1 SINTERED COMPACT SURFACE MANUFACTURER**

- A. Provide Neolith by TheSize Surfaces, [www.thesize.es](http://www.thesize.es).
- B. [Substitutions:
  - 1. Products by other manufacturers will be considered in accordance with [Division 00] [Division 01]. Submit test reports demonstrating compliance with specified product performance.
  - 2. Manufacturer shall have not less than five years experience manufacturing sintered compact surfaces.]

### **2.2 SINTERED COMPACT SURFACE PANELS**

- A. Composition:
  - 1. Surface:
    - a. Quartz, feldspar, silica, and pigments sintered under heat and pressure. Ceramic or porcelain products are not acceptable.
    - b. Product shall contain not less than [\_\_\_\_\_] pre-consumer recycled content.
  - 2. Backing: Glass fiber mesh in polyester resin.
- B. Performance:
  - 1. Water Absorption: 0.1 percent maximum, ISO 10545-3.
  - 2. Breaking Strength: ISO 10545-4

- a. [3 mm Thick Material: 353 average.]
- b. [6 mm Thick Material: 1449 average.]
- c. [12 mm Thick Material: 5451 N average.]
3. Modulus of Rupture: ISO 10545-4
  - a. [3 mm Thick Material: 48 N/mm<sup>2</sup> average.]
  - b. [6 mm Thick Material: 48 N/mm<sup>2</sup> average.]
  - c. [12 mm Thick Material: 51 N/mm<sup>2</sup> average.]
4. Impact Resistance: 0.8 average, ISO 10545-5.
5. Resistance to Deep Abrasion: 133 mm<sup>3</sup> maximum, ISO 10545-6
6. Thermal Linear Expansion: 6.3 x 10<sup>-6</sup> per degree C, ISO 10545-8.
7. Resistance to Thermal Shock: No visible defects, ISO 10545-9.
8. Moisture Expansion: 0.1 mm/m maximum, ISO 10545-10.
9. Frost Resistance: No visible defects, ISO 10545-12.
10. Chemical Resistance: UHA, ISO 10545-13.
11. Stain Resistance: Class 5, ISO 10545-14.
12. Lead and Cadmium Given Off By Tiles: ISO 10545-15.
  - a. Lead: 0.01 mg per dm<sup>-2</sup> maximum.
  - b. Cadmium: 0.0001 mg per dm<sup>-2</sup> maximum.
13. Hardness: 6 minimum, Mohs.
14. Slip Resistance: [R9] [\_\_\_\_], DIN 51330.
15. Static Coefficient of Friction: ASTM C1028.
  - a. Dry: 0.76 to 0.94.
  - b. Wet: 0.43 to 0.67.
16. Reaction to Fire: DIN EN 13823.
  - a. [Without Backing: A1.]
  - b. [With Backing: A2-s1. D0.]
17. UV Resistance: No visible change, DIN 51094.
18. Food Contact: Listed for use in splash zone, NSF 51.
19. Volatile Organic Compound Emissions: Greenguard Gold listed.

C. Size:

1. Length and Width: [As shown on Drawings.] [\_\_\_\_\_].
2. Thickness:
  - a. [Walls] [and] [Non-Bearing Surfaces]:
    - 1) Exterior: [As shown on Drawings.] [6 mm] [\_\_\_\_\_].
    - 2) Interior: [As shown on Drawings.] [3 mm] [6 mm] [\_\_\_\_\_].
  - b. [Floor] [and] [Load-Bearing Surfaces]: [As shown on Drawings.] [6 mm] [12 mm] [\_\_\_\_\_].
  - c. [\_\_\_\_\_].

D. Finish:

1. Matte: Neolith Satin finish.
2. Glaze: Neolith Silk finish.
3. Raised Texture: Neolith Riverwashed finish.
4. Polish: Neolith Polished finish.

E. Color:

1. [As shown on [Drawings.] [Schedules.]
2. Neolith Colorfeel [Arancio.] [Artic White.] [Avorio.] [Chocolate.] [Cobalto.] [Humo.] [Mela.] [Nero.] [Nieve.] [Perla.] [\_\_\_\_\_].
3. Neolith Fusion [Arena.] [Barro.] [Basalt Beige.] [Basalt Black.] [Basalt Grey.] [Beton.] [Belgium Blue.] [Pierre Bleue.] [Cement.] [Lava.] [Nero Zimbabwe.] [Phedra.] [Pietra di Luna.] [Pietra di Osso.] [Pietra di Piombo.] [\_\_\_\_\_].
4. Neolith Iron [Ash.] [Blue.] [Copper.] [Corten.] [Frost.] [Grey.] [Moss.] [\_\_\_\_\_].
5. Neolith Textil [Black.] [White.] [\_\_\_\_\_].

6. Neolith Timber [La Boheme.] [Ash.] [Ice.] [Night.] [Oak.] [\_\_\_\_\_.]
7. Neolith Classtone [Calcatta.] [Calcatta Gold.] [Estuario.] [Marfil.] [Onyx.] [Pulpis.] [Stata Argentum.] [Travertino Clasico.] [Traertino Navona.] [\_\_\_\_\_].
8. Neolith Steel [Marengo.] [\_\_\_\_\_.]

### 2.3 ADHESIVES

- A. Use Type C (cementitious), Class 2 (improved adhesion) and Class [S1 (deformable)] [S2 (highly deformable)], EN12004.
- B. Temperature Range: Use Class E (extended open time) or Class F (fast setting) as recommended by adhesive manufacturer for installation conditions.
- C. [Vertical Surfaces: Use Class T (reduced slip) if panels are not supported during while adhesives cure.]

### 2.4 JOINT FILLERS

- A. [Grout:
  1. Provide Type CG (cementitious grout), Class 2 (improved adhesion), EN 13888 and complying with following:
  2. Grout shall be efflorescence resistant, quicksetting and drying, water-repellent, and mold resistant.
  3. Modulus of Elasticity: Modulus shall be less than modulus of panels.]
- B. [Joint Sealant:
  1. Type: [\_\_\_\_\_.]
  2. Modulus of Elasticity: Modulus shall be less than modulus of panels.]
- C. Color: [Match panels.] [\_\_\_\_\_.]

### 2.5 ACCESSORIES

- A. [\_\_\_\_\_.]

### 2.6 FABRICATION:

- A. Comply with manufacturer's instructions.
- B. Edge Tolerance: 1 mm.
- C. Edge Finish: Lightly sanded and free of sharp edges. [Edges that will be visible at corners shall be finished to match adjacent surfaces.]

## PART 3 - EXECUTION

### 3.1 INSTALLERS

- A. Installer shall be firms with 10-year minimum experience on projects of similar size and nature and acceptable to manufacturer.
- B. Acceptable Installers:
  1. [\_\_\_\_\_.]
  2. [\_\_\_\_\_.]

3. [\_\_\_\_\_].]

### **3.2 EXAMINATION**

- A. Verification of Conditions: Verify that items that will be covered by finishes are in acceptable condition prior to installing work of this Section.

### **3.3 PREPARATION**

- A. Substrates shall be within sintered compact surface manufacturer's requirement for plumb, level, and smooth.
- B. Repair damaged substrates.
- C. Clean substrates of substances that could interfere with adhesion.

### **3.4 INSTALLATION**

- A. General:
1. Do not bridge expansion or control joints or cracks that may move.
  2. Joints shall be [1/16-inch minimum] [1/8-inch] [\_\_\_\_\_] [unless otherwise shown on Drawings].
- B. Panel Layout:
1. Install panels with direction of manufacture consistent within a plane.
  2. [Layout [as shown on Drawings.] [with [book match] [slip match] [diamond match] [random] [checkerboard] [\_\_\_\_\_] pattern.]
  3. [Panels with Bleed Direction: Install with bleed [downward] [\_\_\_\_\_] ].]
- C. Adhere Panels
1. Apply adhesive to substrate and panel. Provide 100 percent coverage on each surface. Apply with notched trowel to thickness complying with manufacturer's instructions.
  2. Use rubber mallet to remove air pockets.
  3. Movement Joints:
    - a. Install movement joints at locations shown on Drawings.
    - b. Provide gap between panels and other materials.
    - c. Fill with joint sealer. Comply with joint sealer manufacturer's instructions.

### **3.5 JOINT FILLERS**

- A. Comply with joint filler manufacturer's instructions.
- B. Use:
1. Exterior Pavement: [Grout.] [Joint Sealant.]
  2. Exterior Walls: : [Grout.] [Joint Sealant.]
  3. Interior Floors: [Grout.] [Joint Sealant.]
  4. Interior Walls: [Grout.] [Joint Sealant.]

### **3.6 CLEANING, REPAIR, AND PROTECTION**

- A. Remove [excess [grout] [and] [sealant] [and] contaminants on surface.
- B. Repair or replace damaged panels to satisfaction of Architect.
- C. Protect installed work from damage.

**END OF SECTION**

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