

TREE GRATES CSI SPECIFICATIONS

Part 1 GENERAL

1.1 Section Includes:

- A. Tree Grates as shown on drawings and as specified herein.

1.2 Submittals

- A. Submit manufacturer's shop drawings and maintenance instructions.
- B. Manufacturer information:
 - 1. Provide overview literature describing manufacturer's overall scope of products.
 - 2. Provide URL of manufacturer's website; website must provide access to technical data, images and general product information.

1.3 Quality Assurance

- A. Manufacturer Qualifications: Minimum of 20 years of experience in the manufacturing of stone (reinforced) architectural products.
- B. Supporting drawings: Products are supported with complete shop drawings by manufacturer.

1.4 Testing Standard References

- A. SS(Singapore Standards) Testing Standards:
 - 1. SS485:2011 - Specifications for Slip Resistance classification of public pedestrian surface materials.
 - 2. SS245:1995 - Specifications for Water Absorption.
- B. ASTM(American Society for Testing and Materials) Testing Standards:
 - 1. ASTM D543:2014 - Specifications for Chemical Resistance classification.

1.5 Sustainability

- A. Provide Green Label certifications from:
 - 1. SEC(Singapore Environment Council)
 - 2. SGBC(Singapore Green Building Council) - Product leader in SGBC product directory - <https://web.sgbc.online/public/product>
- B. Heavy Metals Testing Standards:
 - 1. Heavy Metals Test Analysis - Specifications for testing of hazardous substances.
- C. Toxicity Testing Standards:
 - 1. US EPA 1311 Toxicity Characteristic Leaching Procedure (TCLP) - Specifications for testing of inorganic contaminants.

1.6 Delivery, Storage and Handling

- A. Deliver materials to installation site in manufacturer's original packaging. Handle products in accordance with manufacturer's instructions. Store in clean, dry location until installation.

1.7 Warranty

A. Provide manufacturer's standard warranty.

1. Warranty terms: one year against defects in materials and workmanship.

Part 2 PRODUCT

2.1 Manufacturer

A. Jonite Private Limited
5 Upper Aljunied Link
Quartz Industrial Building #01-01
Singapore 367903
Phone: +65 6383-3788
Fax: +65 6383-3718
Email: info@jonite.com
Website: www.jonite.com

2.2 Tree Grates

A. General

1. Tree grates shall be MODEL _____
2. Size and dimensions to be as specified in shop drawing attached.
3. (Optional) Install accompanying support frames in accordance with manufacturer's recommendations for large tree grates.
4. (Optional) Custom Tree Grates light port dimensions to match lighting manufacturer's recommendations and given to Tree Grate manufacturer.

2.3 Material

A. Tree grate material shall be stone (reinforced) from at least 30% recycled materials. The material is a 95% agglomeration of natural stone substrates & mineral oxides formed under a high-tech vacuum & compression process. It is a proprietary formulated structural polymer hybrid system of a heterogeneous blend.

2.4 Accessories

A. (Optional) Reducer- All tree grates to come with tree ring Reducers of matching material and colour. All support frames to accommodate Reducers in accordance to manufacturer's recommendation.

2.5 Finish

A. Tree Grates to be supplied in natural stone matte state.

B. Colour to be _____

C. (Optional) Colour to be customized according to sample submitted to manufacturer.

Part 3 EXECUTION

3.1 Examination

A. Do not begin installation until site is properly prepared.

3.2 Preparation

- A. Clean surfaces thoroughly prior to installation.

3.3 Installation

- A. Install in accordance with manufacturer's instructions.
- B. Install grates after danger of damage from construction traffic is past.

3.4 Cleaning and Protection

- A. Clean promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials like acid wash that could damage product.
- C. Repair or replace product if damaged by mishandling.

NOTE: Please note that Options are highlighted in red. Select or delete as desired.

Jonite[®] Stone (reinforced) architectural products are compliant to the general specification & criteria as in accordance:-

Core Material

- A 95% agglomeration of natural stone substrates & mineral oxides formed under a proprietary vacuum & compression process.
- A proprietary formulated structural polymer hybrid system of a heterogeneous blend.

Material Structural & Mechanical Properties

- **Tensile Strength:** 8-25 MPa
- **Compression Strength:** 47.8 Mpa
- **Flexural Strength:** 21.1MPa (ASTM D 790-92)
- **Modulus of Elasticity:** 20 - 40 Gpa
- **Standard Density:** 2.0 - 2.4 kg/dm³
- **Elongation at Rapture:** 3%
- **Thermal Coefficient of Expansion:** 106C-1

Physical Properties

- **Water absorption:** 0.09% (SS245:1995 Appendix F - Water Absorption Test)
- **Slip Resistance:** Achieved Classification V (Very Low notional contribution of the floor surface to the risk of slipping when wet - SS485:2011)
- **Chemical Resistance:** Achieved ASTM D543:2014 - Specifications for Chemical Resistance classification)

Load Class

- Compliant with *BS EN124:2015 - **selected products only*
- Compliant with *BS EN1433:2002 - **selected products only*

Sustainability

- Singapore Green Label certification- (022-016-0270 Eco-Friendly Building Material) from SEC(Singapore Environment Council)
- Singapore Green Building Product certification- Product Leader (SGBP 2019-2728) from SGBC(Singapore Green Building Council)
- USGBC(United States Green Building Council) member satisfies MR Credit 4: Recycled Content under LEED[®]((Leadership in Energy and Environmental Design)
- No heavy metals detected in accordance to Heavy Metals Test Analysis - Specifications for testing of hazardous substances
- No toxic materials detected in accordance to US EPA 1311 Toxicity Characteristic Leaching Procedure (TCLP) - Specifications for testing of inorganic contaminants

Standards & Labels



022-016-0270
Eco-Friendly Building Material



SGBP 2019-2728

