



## ***Characteristics Manual***

**BriStone USA**

1310 Industry Dr. Traverse City, MI 49686

1.877.726.2652

[www.bristoneusa.com](http://www.bristoneusa.com)

**BriStone®** is a polymer alternative for the protection and maintenance of any mineral based flooring. **BriStone®** is acid, petroleum, and solvent free. 100% inorganic solids are utilized to harden, strengthen, and preserve the floors surface. The inorganic solids form ionic bonds with the floor changing it on a molecular level. This change improves the floor, increasing its durability and life expectancy. **BriStone®** does not require any harsh chemicals to maintain a crisp high gloss finish. The elimination of these chemical processes stops the degradation of the flooring, adhesive, and subfloor. Each flooring material is different and has different needs. **BriStone®** is designed to meet each specific need of individual flooring materials including:

- Compact Marble
- Travertine Marble
- Terrazzo Marble
- Venetian Marble
- Terrazzo & Terrazzite
- Regular Floor Tile
- Venetian Small Slab Tile
- Vinyl Tile
- Granite Onyx
- Finished or Polished Cement
- Porcelain Tile
- Pre-Finished Floating and/or laminated Wood

## How BriStone® Works

- BriStone® introduces boron silicates, a 100% inorganic solid, to create a “**protective shield**” over the surface of the floor. Unlike a conventional coating, the boron silicates form an ionic bond and become an integral part of the stone, granite, marble, concrete, or vinyl tile etc.
- After the initial installation the floor is protected from contaminants, traffic, and wear.
- The surface retains its clear and glossy finish for longer than any other conventional product on the market.

## Real Preservation

- BriStone® is designed not only to provide a high gloss finish to flooring but the principal characteristic of BriStone® is the ability to protect, preserve, and enhance any mineral based flooring.
- BriStone® becomes an integral part of the floor; increasing its life expectancy by hardening and strengthening the surface while eliminating the need for harsh chemicals.
- BriStone® is the only 100% inorganic natural stone preservation system available.

## Acid, Fluorocarbon, and Solvent Free

- BriStone 1, 2, 3, 4, & 5® are acid, fluorocarbon, and solvent free.
- BriStone® formulations are mineral based and actually extend the life expectancy of the floor.
- BriStone Special Cleaner® is acid, fluorocarbons, and solvents free. BriStone Special Cleaner® is biodegradable and when used for daily maintenance will extend the life of your floor by continuing the introduction of the boron silicates.
- Acid, fluorocarbon, and/or solvent-based formulas cause irreparable damage over time to the surface of the floor.
- The application of a crystallizer requires the constant grinding and honing along with applications of oxalic acid to maintain the gloss. This process provides shine, but begins to wear away the surface of the floor drastically limiting the life expectancy of the floor.

## VOC & Odor Free

- VOCs are volatile organic compounds that have high vapor pressures allowing them to enter the atmosphere. VOCs are believed to be one of the major components in green house gases.
- BriStone® inorganic formulations do not produce any VOC's, odors, fumes, or smells.
- BriStone® is free from harsh chemicals and solvents that are responsible for harsh fumes and odors.
- Our odor free product offers a safe environment for maintenance crews, installers, and the general public.
- A major advantage of BriStone® is it can be installed and maintenance can be completed during normal business hours without risking the safety and well being of customers, employees, and installers.

## Real Time Drying

- BriStone® does not need to cure or air dry after installation and can be walked on immediately after installation.
- The liquids are vaporized by the weight and friction caused by the application equipment leaving the surface dry and slip free.
- Conventional polymers need to cure before they can be walked on requiring areas to be maintained after hours.

## Stain and Slip Resistant

- BriStone® exceeds all the requirements for anti-slip set by the National Floor Safety Institute. (Certification Pending)
- Inorganic solids form an anti-stain and anti-slip “**protective shield**” with properties that exceed the current levels attained through traditional system.
- By using an anti-slip measurement device such as the model Topaka, tests were conducted on a Venetian Terrazzo floor yielding a anti-slip resistance coefficient of 0.32
- As reference 0.00 is slippery as an ice skating ring and 0.50 as sticky as walking on a floor with hot tar.
- The average friction coefficient on polymeric waxed floors is 0.28

- It is given as a reference that the optimum security rank readings of the Topaka ranges in a coefficient of 0.24 and 0.35. Thus a coefficient of 0.32 far surpasses safety set standards as a much-secured surface for the pedestrian.

## **Mechanical Resistance**

- **BriStone®** resists scratches, high pedestrian traffic, working loads, vehicles, forklifts, supermarket carts, etc.
- **BriStone®** has the highest mechanical resistance of any product on the market. Boron silicates and microspheres of glass are fused to the substratum creating a harder, stronger, and denser surface.
- Due to the level of mechanical resistance our system is ideal for any type of floor with high or low traffic and assures a minimal maintenance process.

## **Resistance to the Elements**

- **BriStone®** is designed for interior and exterior applications and is impervious to all exterior temperatures and precipitation.
- Because **BriStone®** is not a coating the floor can expand and contract naturally.
- With a conventional polymer the expanding and contracting of the polymer and the floor are at different rates increasing the risk of cracking and delamination.
- Moisture cannot create hydraulic pressure eliminating the risk of efflorescence, stone pops, and delaminating because **BriStone®** allows the floor to breath naturally.
- Ionic bonds do not break down when exposed to temperature variations or moisture guaranteeing the **BriStone®** will not come off the floor.

## **Resistance to Solar Radiation**

- The inorganic composition of **BriStone®** forms a UV stable surface preventing yellowing.
- A **BriStone®** floor will not degrade due to oxidation by ultraviolet radiation and “softening” peaks caused by the direct exposure to infrared rays during the seasons of high heat.
- Due to its inorganic compounds **BriStone®** will not discolor or darken maintaining its clear and glossy finish.

## **Ease of Maintenance**

- **BriStone®** floors are easily maintained with regular sweeping and floor scrubbing with **BriStone Special Cleaner®** and clean water.
- Harsh chemical cleaners and/or gloss maintainers should **NEVER** be used on a **BriStone®** floor.
- **BriStone®** does not require daily or even weekly buffing because it does not lose its strength or light reflective characteristics.
- If restoration is required it is quick and easy. Apply a couple ounces of **BriStone®** directly to the damaged area to completely restore the surface to its original clear and glossy finish.
- Unlike conventional polymer systems **BriStone®** never needs deep scrubbing, full floor recoating, or stripping.

## **Cost Savings**

- No Product Waste
  - **BriStone®** is applied directly to the floor. Every drop of product is utilized and becomes part of the floor because product is not absorbed by the mops or leftover in buckets.
- Never Requires Stripping
  - **BriStone®** is not a coating and will never require stripping.
- No Daily or Weekly Buffing
- No Gloss Maintainers, Deep Scrubbing, or Recoating
- Simple Maintenance Schedule
  - Due to the progressive nature of our formulations maintenance schedules are drastically reduced, saving man-hours and product consumption.

## BriStone Environmental Benefits

BriStone® was designed to eliminate the limit the long term effects of pollution cause by floor maintenance. Conventional polymers for floor maintenance are responsible for the constant pollution of waterways with a minimum of 20 different non-biodegradable chemicals (see attached sheet). Harsh chemical strippers, acids, and solvents are dumped into public sewers every time a polymer floor is cleaned, deep scrubbed, recoated, and stripped. Stripping a single 50,000 square foot facility will generate approximately 960 gallons of non-biodegradable petroleum based waste. Millions and millions of sq. ft. of polymer floors are maintained everyday creating millions of gallons of petroleum based waste.

Unlike a conventional polymer BriStone® is acid, fluorocarbon, and solvent free. Once BriStone® is installed the use of harsh chemical cleansers, gloss maintainers, restorers, strippers, and other harmful products are eliminated. BriStone® does not create any product waste, chemical bi-products, or non-biodegradable chemical sludge during the installation or maintenance of a floor. BriStone® is maintained with single biodegradable cleaner and clean water, completely eliminating the use of heavy metals, harsh chemicals, and solvent based petro-chemicals.

BriStone products have been designed with particular attention to the following two key elements; Boron and Silicates.

### **1. What is boron?**

- Boron is a naturally occurring element found in the ocean, sedimentary rocks, coal, shale and some soils.
- In the environment, boron is combined with oxygen and other elements in compounds called borates.

### **2. Where is boron found?**

- Boron is found throughout our environment in soil, water, and air. Boron accumulates to different degrees in aquatic and terrestrial plants and animals. It enters the environment from the weathering of boron-containing rocks, from seawater, and in the form of boric acid from volcanic and geothermal activity.
- Boron is necessary for plant growth and can build up in plants. As the plants are consumed boron does not accumulate to a greater extent along the food chain.
- Humans are exposed to boron from their soil, the air they breath, diet, drinking water and from some consumer products. Overall, more than half of the average exposure to boron comes from diet.

### **3. What are Silicates?**

- Silicates are the largest and most complicated class of minerals. Approximately 30% of all minerals are silicates and it is estimated that 90% of the Earth's crust is made up of silicates.
- The most stable form is silicon dioxide ( $\text{SiO}_2$ ) often called quartz. Quartz is the most abundant mineral in earth's crust. Quartz with a hardness of 7 in the Mohs scale is durable and sustainable. It is the durable nature of silicates that account for their wide usage.

### **4. What are the effects of Boron and Silicates on humans?**

- When swallowed boron and silicates are widely distributed throughout the body and then is rapidly expelled. No long term health effects have been found.
- Boron and silicates as potassium are being used as trace elements in combination with calcium, magnesium and zinc to promote the absorption of calcium in the body.
- Boron and silicates have a therapeutic effect in people with arthritis and osteoporosis.

**COMMON CHEMICALS DISCHARGED THROUGH  
CONVENTIONAL POLYMERS**

1. Ethanol.2 (2-Methoxyethoxy)	CAS # 111-77-3
2. Ethanol.2 (2-Butoxyethoxy)	CAS# 112-34-3
3. Ethanol.2 (Butoxy)	CAS# 111-76-2
4. Ethanol.2 (2-Ethoxyethoxy)	CAS# 111-90-0
5. 2-Propanol, 1-(2-Methoxy-1-Methylethoxy)	CAS# 29324-32-7
6. 2 Propanol	CAS# 67-63-0
7. Tributoxy Ethyl Phosphate	CAS# 78-51-3
8. 1,2-Ethenediol	CAS# 107-21-1
9. Dibutyl Phthalate	CAS# 84-74-2
10. Propylene Glycol Monobutyl Ether	CAS#5131-66-8 &CAS#15821-83-7
11. Propylene Glycol	CAS # 57-55-6
12. Dipropylene Glycol Methyl Ether	CAS # 34590-94-8
13. Tetrapotassium Pyrophosphate	CAS # 7320-34-5
14. EDTA	CAS # 64-02-08
15. Ethylenediaminetetra Acetic Acid	CAS # 60-00-4
16. Ethanol, 2-Amino	CAS # 141-43-5
17. Acrylic Co-Polymer	CAS # 63744-68-3
18. Tetrasodium Ethylene Diaminetetra Acetate	CAS # 64-02-8
19. Oxidized Ethylene Polymer	CAS # 68441-17-8
20. Ethylene Co-Polymer	CAS # 67892-91-5

## ***BRISTONE® CONCLUSION***

- △ **BriStone®** is guaranteed to be 100% environmentally friendly.
  - NO sludge discharge in the waterways
  - NO harsh chemicals
  - NO metals
  - Reduced water consumption
  - NO acid, fluorocarbons, and/or solvent vapors or fumes
  - No VOC or Green House Gases
  
- △ **BriStone®** protects, preserves, and enhances.
  - Increases life expectancy of flooring
  - Hardens & strengthens the surface
  - Never yellows or darkens
  - Resistant to precipitation, chemicals, and stains
  - Mechanically resistant
  - Allows natural breathing, expanding, and contracting
  
- △ **BriStone®** greatly reduces operational costs and is applied easily and efficiently.
  - Reduces floor pad consumption
  - Reduces propane consumption
  - Reduces energy consumption
  - Reduces equipment maintenance and repairs

***BRISTONE IS THE FUTURE AND THE SMART CHOICE!***