

# TECHNICAL DATA MANUAL



Ruby Reflections 7450



Aerial View of CaesarStone Factory — Kibbutz Sdot-Yam, Israel



CaesarStone – It's not just for countertops.

## PRODUCT DESCRIPTION

Basic Use: CaesarStone® is the original quartz-based fabricated stone. Long used for the finest residential countertops, CaesarStone is now offered as an attractive and versatile finish for commercial and institutional buildings. Our quartz surfacing is tough enough for the wear and tear on just about any interior surface, and beautiful enough for every architectural and decorating scheme.

### USE CAESARSTONE FOR:

- Interior wall cladding
- Fireplace mantles and surroundings
- Wainscots and wall bases
- Bank teller lines
- Table and desk tops
- Elevator cab walls and floors
- Floor tile and stair treads
- Food service areas
- Shower and tub surrounds
- Toilet compartment partitions
- Window seats
- Countertops and backsplashes

CaesarStone creates a distinctive finish for almost any interior surface.

CaesarStone has four times more flexural strength and two times more impact resistance than granite, and exceeds the standards for marble by even greater margins.



Because CaesarStone is more resistant to breakage, you can use thinner materials to save weight or larger pieces to reduce the number of joints in a surface. Either way, you save money with a simplified fabrication and installation process. Furthermore, CaesarStone is virtually maintenance free. Its quartz aggregate makes CaesarStone harder and more scratch resistant than either granite or marble, and its high-quality polymer binders make it non-porous and highly resistant to stains. CaesarStone keeps its good looks without sealants or waxes and meets the stringent sanitation requirements of restaurants, hospitals, and schools.

### **CAESARSTONE PERFORMANCE**

- Strong, yet flexible.
- Highly chip and scratch resistant.
- Highly stain resistant.
- Resistant to many chemicals, acids and solvents.
- Does not support mold or mildew.
- Heat resistant.
- Immune to freeze-thaw damage.
- Beautiful and durable.

CaesarStone was the first manufacturer of quartz surfacing and, after more than 18 years, is still the international leader. Our factory is certified under ISO 9002 Quality Systems – Model for Quality Assurance in Production, Installation and Servicing and produces nearly eight million square feet of product annually.



## COMPOSITION

CaesarStone is 93 percent crushed quartz, one of nature's hardest minerals. The quartz is combined with high-quality polyester resins and pigments. The mixture is then compacted under intense vibration, vacuum, and pressure into dense, non-porous slabs. The slabs are post cured, gauged to precise thickness, and polished to an enduring shine. After passing inspection, the back of each CaesarStone slab is imprinted with a zigzag trademark to simplify jobsite identification.

CaesarStone's patented production method creates an engineered stone that is denser, harder, and less porous than natural building stones.

## COLORS AND STYLES

CaesarStone offers the widest spectrum of design options in the quartz surfacing industry. Our styles range from fine-grained salt and pepper patterns to coarse-grained color blends with a variegated visual texture. Contact CaesarStone for color cards and samples.

**Stocked Standards:** 50 colors and styles are available with a polished finish plus 7 with a honed finish.

**Non-Stocked Standards:** 10 additional colors and styles are available on special order.

**Custom:** Custom colors and styles are available without additional charge on orders of 4,500 sq. ft.

## FINISHES

Polished surfaces have a gloss greater than or equal to 35% at 50°; honed surfaces have a matte finish and require more maintenance than our polished finish. Some foods and products adhere to the surface more than others. We recommend using Soft Scrub, Clorox Bleach Gel





and a Scotch Brite pad to maintain and remove any spots. CaesarStone can be finished on two faces by special order. In addition, many fabricators can provide CaesarStone tiles with an antiqued tumbled finish.

### DIMENSIONS

Thickness (nominal): Typical Uses:

- 3/4" (20 mm)** Minimum recommended for countertops, partitions, and thin-set tile.
- 1-1/4" (30 mm)** Use when greater strength or thicker slabs are required. Available in a limited color selection.

*Slab Size:* 120 inches (3.10 m) long 56 inches (1.42 m) wide.

### LIMITATIONS

- CaesarStone is recommended for interior use only.
- Chemical: **Avoid** contact with products containing trichloroethane or methylene chloride (**such as paint removers or strippers**), abrasives, alkaline levels higher than 8.5 pH, **hydrofluoric acid, liquid bluing**, and aggressive cleaning compounds like **oven or grill cleaners**. Nitric acid discolors CaesarStone but does not compromise its strength. Concentrations over 10% of sodium hydroxide or potassium hydroxide can etch CaesarStone. In the event of accidental exposure to these products, thoroughly rinse CaesarStone with clean water as soon as possible.
- Intense Heat: CaesarStone tolerates brief exposures to moderately hot temperatures (up to 300°F (150°C)). Limited contact with a burning cigarette or hot pot will not ruin the surface. However, prolonged contact with very hot pots or open flames can cause thermal shock, discoloration, or other damage. Ignition temperature is 914°F (490°C).



## ACIDS

CaesarStone is not affected by even the strongest solutions of common acids including:

- Hydrochloric Acid
- Muratic Acid
- Nitric Acid
- Sulfuric Acid

In concentrated solutions, after exposures of 24 hours, some acids such as nitric acid will slightly discolor the resin used in CaesarStone, though they will not compromise the strength of the material. Hydrofluoric acid spills should be cleaned up immediately because the acid will react with the quartz in CaesarStone.

## BASES

The only known base substances to affect CaesarStone's surface are sodium hydroxide and potassium hydroxide in industrial concentrations. Although these substances will not degrade the structure of the material, over time they will etch CaesarStone's Surface. Concentrations of the above bases in 10% or higher concentrations should be cleaned from CaesarStone's surface immediately. **In household concentrations, such as those found in home drain cleaners, sodium and potassium hydroxide have no effect on CaesarStone.**

## SOLVENTS

CaesarStone resists a wide range of commercial and industrial solvents. Household cleaners and industrial strength concentrations of solvents (such as Methyl Ethyl Ketone) have shown no effect on CaesarStone.



Other solvents that can be safely used in pure concentrations on CaesarStone include:

- Acetone
- Mineral Spirits
- Methelyne Chloride
- Lacquer Thinner
- Isopropyl Alcohol
- Trichlorethan

### STAINING AGENTS

CaesarStone resists staining agents found in laboratories. CaesarStone is not permanently stained by pure concentrations of Betadine, Potassium Permanganate or Iodine. (Most solid surfaces and plastics are permanently stained by these agents.) Any residual stain of Betadine or Iodine on light colored CaesarStone cleans off with household chlorine bleach. Black and dark colors of CaesarStone show no stain from these agents.

## TECHNICAL DATA

Applicable Standards: CaesarStone is certified under ANSI/NSF Standard 51 – Food Equipment Materials to ensure that CaesarStone is safe for use in food preparation areas and is easy to clean and sanitize.

### THE PUBLIC HEALTH & SAFETY COMPANY

NSF International, The Public Health and Safety Company™, a not-for-profit, non-governmental organization, is the world leader in standards development, product certification, education, and risk-management for public health and safety. For 60 years, NSF has been committed to public health, safety, and protection of the environment. For more information visit: <http://www.nsf.org/business/>





## COMPARISON — CAESARSTONE AND NATURAL STONE

In addition to higher performance, CaesarStone also offers greater consistency than natural stone which is veined and prone to flaws.



Flexural Strength  
(kg/cm<sup>2</sup>)



Impact Test  
(cm)



Water Absorption  
by Weight  
(%)



Compressive  
Strength  
(kg/cm<sup>2</sup>)



Freezing  
Compressive  
Strength  
(after 25 cycles)

### PRODUCT

PRODUCT	Flexural Strength (kg/cm <sup>2</sup> )	Impact Test (cm)	Water Absorption by Weight (%)	Compressive Strength (kg/cm <sup>2</sup> )	Freezing Compressive Strength (after 25 cycles)
<b>CaesarStone</b>	<b>515</b>	<b>135</b>	<b>0.02</b>	<b>2200</b>	<b>2082</b>
Marble (Botticino)	60	29	0.55	2161	2082
Granite (Rosa Fiorito)	134	61	0.33	1921	1906
DIN Standard	52112	2234	52103	52105	52104
CaesarStone/Marble	8.5	4.6	27.5	1.0	1.0
CaesarStone/Granite	3.8	2.2	16.5	1.1	1.1

Tests performed by: Breton SPA, Italy

## PHYSICAL PROPERTIES

TEST PERFORMED	TEST PROCEDURE	RESULTS	REMARKS
Absorption (%)	ASTM C-97	0.002	
Density (lb/ft <sup>3</sup> )	ASTM C-97	2000 series: 145.4 3000 series: 149.1 7000 series: 149.1 9000 series: 152.9	
Mohs Hardness	Scratch Test	7.5	Scale of 1 to 10 where 10 is diamond. A reading of 7.5 means that the surface was scratched by #8 (topaz) but not by #7 (quartz)
Taber Abrasion	ASTM C-501	2000 series: 126 3000 series: 147 7000 series: 196 9000 series: 251	Note: This is the abrasion index at 1,000 cycles. A higher index represents less wear.
Radiant Heat Resistance	NEMA 3-3.10	No Damage	
UL Fire Resistance	Smoke gen	Pass (No Burn)	
Thermal Expansion (x0.000001 in/in/deg c)	ASTM E 228	2000 series: 9.6 3000 series: 7.9 7000 series: 7.9 9000 series: 7.8	
Stain Resistance	ASTM Z 124.6	2000 series: 59 3000 series: 64 7000 series: 54 9000 series: 54	Note: Max rating 64.
Ball Impact Resistance (Height)	NEMA LD 3.33	2000 series: 34" 3000 series: 35" 7000 series: 34" 9000 series: 36"	
Boiling Water Resistance	NEMA LD 3.38	No Effect	
High Temperature Resistance	NEMA LA 3.36	No Effect	
Flexural Strength (Psi)	ASTM C880	2000 series: 7058 3000 series: 5878 7000 series: 3819 9000 series: 4377	Flexural strength minimum requirements: Marble 1000Psi Granite 1200Psi
Static Coefficient of Friction	ASTM C1028 James Machine	Polished Finish: 0.68 Honed Finish: 0.69	
	ASTM D2047 Dynamometer Pull Method	Dry: 0.87, Wet: 0.54 Dry: 0.73, Wet: 0.68	Polished Finish Honed Finish

Tests performed by: ATC and SGS



## INSTALLATION

### GENERAL

CaesarStone can be fabricated and installed in much the same manner as natural stone. A CaesarStone Fabrication and Installation Manual is available upon request. Standard industry references can also be consulted: The Marble Institute of America's Dimension Stone Design Manual provides reliable information for many types of interior stone construction, and the Tile Council of America's Handbook for Ceramic Tile Installation has recommendations for stone tile installation.

### FABRICATION

Cut and polish CaesarStone with water-cooled power tools. Lay out materials to minimize joints and to avoid L-shaped pieces of quartz surfacing. Inspect material for defects prior to fabrication.

Inside corners should have 3/8 inch (10 mm) minimum radius to reduce the potential for crack propagation.

Inside corners, narrow pieces, cantilevered overhangs, and stress points should be reinforced against breakage by laminating an additional thickness of CaesarStone.

Verify field measurements prior to fabrication. Substrates supporting quartz surfaces should be plumb, level, and flat to within 1/16 inch in ten feet (1.6 mm in 3000 mm). Supports and blocking should be securely installed.

The certified CaesarStone fabricator should be provided with accurate templates showing cutouts required for installation of items installed on or penetrating through CaesarStone.





## SHIPPING, STORAGE, AND HANDLING

Handle CaesarStone with care to avoid breakage or damage. Transport and store in racks in the near-vertical position to prevent warping. Keep finished face toward finished face, and protect against rubbing. Store inside, away from direct exposure to sun, and between 25 and 130 °F (-4 and 54 °C).

## FABRICATING & INSTALLING OVERHANG COUNTERTOPS

As a general guideline, support is required for overhangs of CaesarStone extending more than 12" (300mm) in 3/4" (19mm) material.

Adding thick edges makes the overhang stronger.

## SUPPORT TYPES

### OVERHANG SUPPORTS

3/4" (19 mm) CaesarStone Countertop

### FOR OVERHANGS EXTENDING:

MORE THAN	AND UP TO	INSTALL
0	12" (300 mm)	No additional support required
12" (300mm)	18" (457 mm)	Plywood Underlayment & Brackets
Over	18 (457 mm)	Legs or Columns

### SEAMED OVERHANG COUNTERTOPS

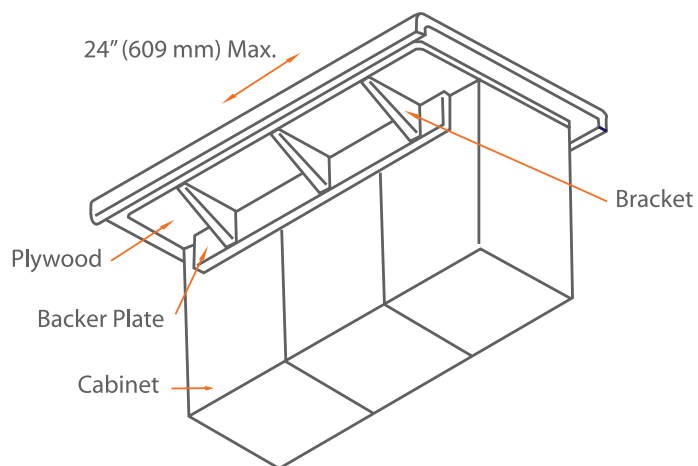
CaesarStone recommends positioning seams over cabinets rather than in the overhang. Keep seams as far from edges of cabinets as possible.



## MAKING THE SUPPORTS

### PLYWOOD UNDERLAYMENT


- Position 3/4" (19mm) A-C grade plywood or M.D.F. over the cabinet with the "A" side facing the floor.
- Leave 1/8" (3mm) minimum clearance between the plywood and the built-up edge.



### INSTALLATION

A trial installation is recommended to ensure that fabricated CaesarStone components fit accurately and to make necessary adjustments. Allow gaps for expansion of not less than 1/16 inch per 5 feet (1 mm per 1 m) when CaesarStone is installed between walls or other fixed conditions. Clean surfaces to receive adhesives and apply adhesives as described below. Set CaesarStone gently into position.





In many conditions of use, CaesarStone can be adequately secure with structural silicone or epoxy mounting adhesives. Use products known to be compatible with stone and which are recommended by their manufacturers for the conditions of use. Follow mounting adhesive manufacturer's instructions and use solvents, spacers, and other accessories as recommended by adhesive manufacturers.

Adjacent pieces of CaesarStone should be tight fitting, level, and neat. Cement adjacent pieces together with high quality polyester or epoxy stone adhesives. Use products which are recommended by their manufacturers for the conditions of use. Follow stone adhesive manufacturer's instructions. When desired, stone adhesive can be tinted to match or complement the CaesarStone color. Fill joints and clamp or brace CaesarStone in position until stone adhesive sets.

Seal joints between backsplashes and countertops and around tub and shower enclosures with a high quality joint sealer.

### **PRECAUTIONS**

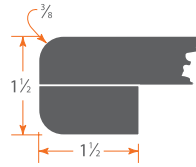
Observe good stone working and safety practices at all times and comply with applicable building codes and regulations.

While rigorous quality control is maintained in the manufacture of CaesarStone, minor variations in appearance and aggregate distribution can occur. Adjacent pieces should be from the same batch and inspected for visual compatibility before fabrication.

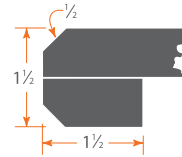


## EDGE DETAILS

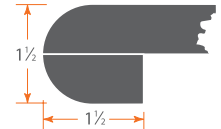
### STANDARD



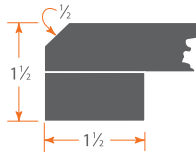
Radius



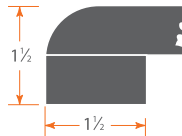
Bevel



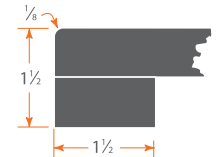
Double Bullnose



Bevel Square

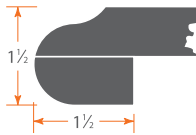


3/4 Top Radius

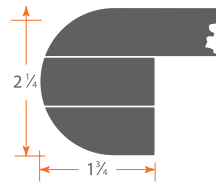


Square

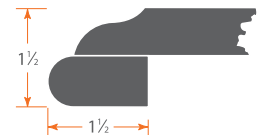
### ORNATE



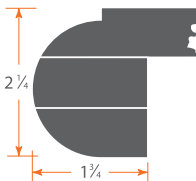
Ogee Bullnose



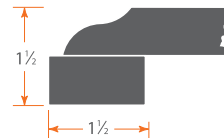
Triple Bullnose



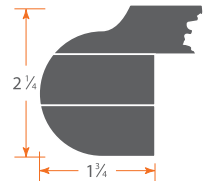
Ogee Bullnose Step



Triple Egg



Ogee Square Step



Triple Ogee

\* More Edge Details Are Available



## AVAILABILITY

Stocked colors and styles are inventoried in convenient locations throughout North America. CaesarStone is also available internationally.

## COSTS

CaesarStone is priced below the cost of many natural stones. Additional savings result from CaesarStone's strength which can simplify fabrication, reduce breakage, and allow for the use of thinner materials. Its durability and low maintenance requirements provide further lifecycle economies. Current pricing is available by contacting CaesarStone or CaesarStone distributors.

## WARRANTY

A 10 year limited warranty is available for CaesarStone used in single-family residences. **Contact CaesarStone for a copy of warranty terms and conditions.**

Except as stated above, CaesarStone warrants that its quartz surfacing material complies with CaesarStone's published product data. Because CaesarStone does not have control of fabrication or installation, CAESARSTONE DISCLAIMS INCIDENTAL AND CONSEQUENTIAL DAMAGES and buyer's sole remedy is replacement of defective material or refund of material purchase price at CaesarStone's option.



Misty Carrera 4141 — Kitchen Application

## MAINTENANCE

Its hard, nonporous surface makes CaesarStone simple to clean. In most cases, soap and water or a mild detergent is all that is required to maintain its luster. If required, a non-abrasive cleanser such as Soft Scrub, Bleach Gel or Comet Bleach Gel can be used along with a green scrub pad such as Scotch-Brite. **Do not hesitate to apply the necessary pressure** needed to rub out any marks. Adhered materials like food, gum, nail polish, or dried paint can be scraped away with a sharp blade; metal marks left by the blade can be removed with Soft Scrub, any bleach gel cleaner, and a Scotch-Brite pad. Thoroughly rinse the surface with clean water to remove residue. **While CaesarStone does not ordinarily require sealants or waxes to maintain its luster, occasional cleansing with Soft Scrub or a bleach gel cleaner will keep the quartz surfacing looking its best.**

## ADDITIONAL INFORMATION

Contact CaesarStone for:

- Color Chart and Samples
- Specification Sheets - download at [www.caesarstoneus.com](http://www.caesarstoneus.com)
- Limited Warranty
- Technical Assistance



## SPECIAL CARE CONSIDERATIONS FOR CAESARSTONE HONED FINISHES

CaesarStone is proud to offer certain colors in a **HONED FINISH**. This unique matte finish looks and feels like natural stone, but has the durability found only in quartz surfaces.

Please understand that the **HONED FINISHES** will require more daily maintenance than our polished finishes. Since there is more exposed surface area with honed finishes, metal marks, finger prints and other signs of daily living will be more apparent, especially on the darker colors. However, superficial marks like these can be removed with little effort and by using non-abrasive cleaning products such as Soft Scrub Liquid Gel with Bleach or Comet Gel and a Scotch Brite pad.

By signing this document, you agree that the properties of this unique finish have been fully explained to you and that you understand that more frequent cleaning may be required to keep the product looking new and free of marks. You also understand that while CaesarStone has a 10-year limited warranty, this warranty covers failures caused by product defects when the material is installed by a CaesarStone certified fabricator. Temporary marks that are inherent to the honed finish are not covered by our CaesarStone Warranty.

For additional warranty information please refer to the warranty guide or the CaesarStone USA website at [www.caesarstoneus.com](http://www.caesarstoneus.com).

\_\_\_\_\_ Date

\_\_\_\_\_ Name of Dealer

\_\_\_\_\_ Signature of purchaser

\_\_\_\_\_ Signature of salesperson





Oyster 9601

## U.S. QUARTZ PRODUCTS

11830 Sheldon Street Sun Valley, California 91352 USA

877.9QUARTZ Toll Free | 818.394.6000 Phone

818.394.6006 Fax | [www.caesarstoneus.com](http://www.caesarstoneus.com)

For Specification Sheets, download at [www.caesarstoneus.com](http://www.caesarstoneus.com)



CaesarStone®

QUARTZ SURFACES