# **ARCHITECTURAL** REFERENCE GUIDE

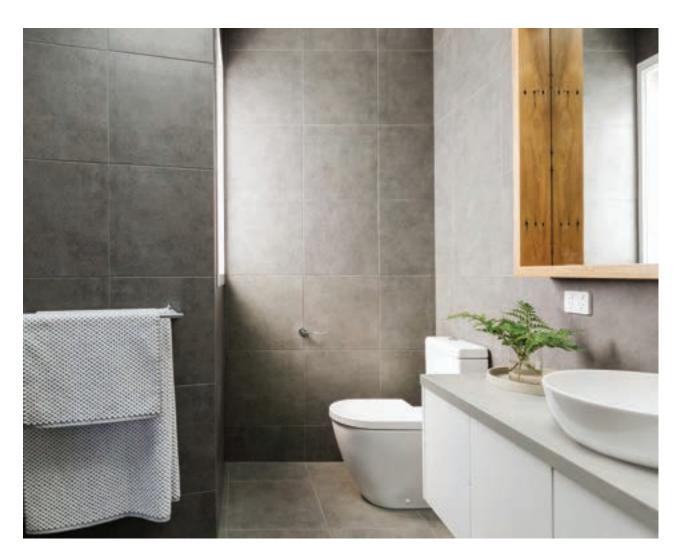
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## LIVE BEAUTIFULLY

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# CORPORATE BACKGROUND

Setting the trend for construction materials over the last half-century, Hyundai L&C continues to further its reputation as an eco-friendly construction material company that prioritizes customers' health with products of distinguished function and design, from interior stones, which is growing fast in the eco-friendly, high-end materials market to windows and doors that maximize energy efficiency and insulation.



# HANSTONE QUARTZ

HanStone Quartz offers the natural beauty of quartz with up to six times the strength and durability of granite. More than 90% of HanStone Quartz is mined quartz crystals, one of nature's hardest materials, ranking a 7 out of 10 on the Mohs Hardness scale. The quartz is combined with polyester resins and pigments to create the look of natural stone without the high maintenance. There's no need for sealing, conditioning and polishing.

HanStone Quartz is scratch and stain resistant and its nonporous nature makes it an ideal surface for residential or commercial applications. HanStone Quartz offers design flexibility to make any vision a reality. Available in more than 60 colors and patterns that are inspired by the most breathtaking hues and textures in nature, HanStone Quartz delivers one of the strongest and most durable surface materials on the market, without sacrificing style.

### HANEX SOLID SURFACES

Made from 100% acrylic solid surface, Hanex Solid Surfaces are an ideal material for residential and commercial applications with consistent, long-lasting beauty and unlimited design flexibility. Hanex Solid Surfaces are a nonporous material that is easy to clean and maintain. It is resistant to high temperature, UV, chemicals and staining, making it an attractive surface with endless applications. Hanex Solid Surfaces can be fabricated and installed with smooth inconspicuous seam lines and can be integrated with solid surface sinks and bowls for a smooth continuous surface. With up to 80 choices, Hanex makes designs elegant as well as practical.



# HANSTONE QUARTZ APPLICATIONS

An ideal surface for everyday wear and tear, HanStone Quartz is as practical as it is beautiful. From kitchens and bathrooms to commercial food preparation areas and healthcare facilities, HanStone Quartz offers architects and designers versatility in design with unmatched durability.

Backed by a Commercial 10-Year Limited Warranty and a Residential Lifetime Limited Warranty, HanStone Quartz is not only an excellent surface, but also a long-lasting investment.

## WHERE TO FIND HANSTONE QUARTZ

HanStone Quartz is available from a network of distributors and direct sales centers throughout North America, Europe and Asia. Homeowners and trade professionals in the United States and Canada can locate a distributor in their area by visiting hanstonequartz. com. For more information regarding the availability of HanStone Quartz, please email info@hanstonequartz.com or call 1.888.426.9421.

# GLOBAL HEADQUARTERS

Hyundai L&C Co., Ltd. 7\_8F, CENTER1 Bldg, 26, Uljiro 5-gil, Jung-gu, Seoul, 04539, Republic of Korea Tel: 82.2.729.2051 Fax: 82.2.729.1447

# NORTH AMERICAN OFFICE

Hyundai L&C USA 2839 Paces Ferry Rd, Suite 1100 Atlanta, GA 30339 Tel: 888.426.9421 Tel: 770.431.6110 Fax: 770.431.6135

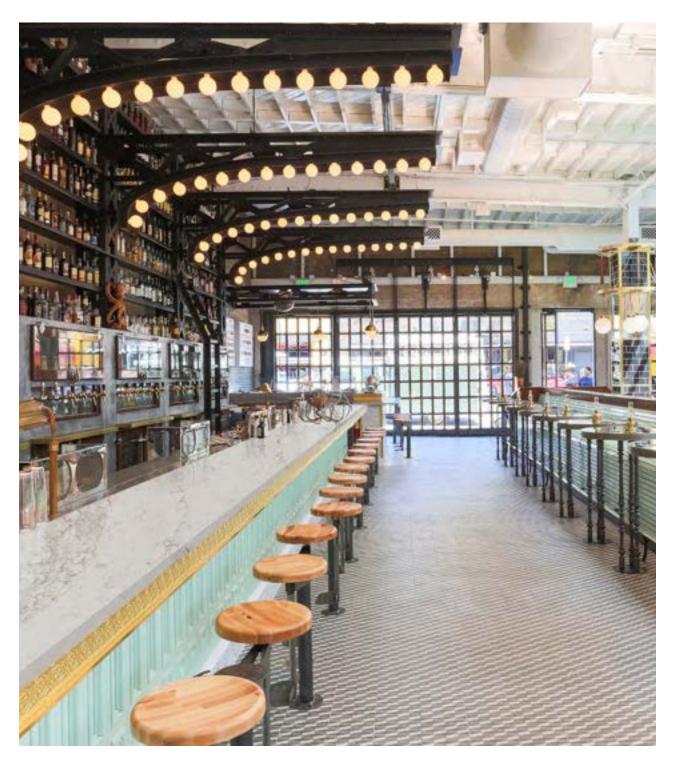
# DISTRIBUTION NETWORK

We have an extensive network of distributors across North America. To locate a distributor in your area, visit our website: hanstonequartz.com

# CONTACT

Toll free: 888.426.9421 Email: info@hanstonequartz.com Website: hanstonequartz.com

# FREQUENTLY ASKED QUESTIONS



# WHAT IS HANSTONE QUARTZ?

HanStone Quartz offers the natural beauty of quartz with up to six times the strength and durability of granite. More than 90% of HanStone Quartz is mined quartz crystals, one of nature's hardest materials. The quartz is combined with polyester resins and pigment to create the look of natural stone without the high maintenance.

# WHAT IS NATURAL QUARTZ?

Quartz is one of the hardest components of natural granite. Quartz rates 7 out of 10 on Mohs Scale of Hardness. The only materials harder are diamonds, sapphires and topaz. The quartz crystals are used to create a beautiful and strong surface that is highly scratch and impact resistant.

# WHAT ARE THE ADVANTAGES OF HANSTONE QUARTZ?

A high-performing surface, HanStone Quartz is nonporous, preventing unwelcome germs, bacteria and mildew. It does not require sealing, conditioning or polishing. HanStone Quartz is also scratch and stain resistant, unlike alternative surface options such as granite, tile and marble.

# WHAT HANSTONE QUARTZ PRODUCTS ARE AVAILABLE?

HanStone Quartz comes in sheets that vary in thickness, width and length. Each sheet is fabricated into a variety of design applications.

THICKNESS	WIDTH	LENGTH
3 CM (1 <sup>1/8</sup> ")	55"	120"
2 CM (3/4")	55"	120"
3 CM (1 <sup>1/8</sup> ")	65"	130"
2 CM (3/4")	65"	130"

\*CHECK FOR LATEST AVAILABLE SIZES

# HOW MANY COLOR SURFACES DOES HANSTONE QUARTZ HAVE AVAILABLE?

HanStone Quartz offers design flexibility to make any vision a reality. Available in more than 60 colors and patterns that emulate the hues and textures in natural stone, HanStone Quartz delivers one of the strongest and most durable surface materials on the market, without sacrificing style.

# WHERE CAN HANSTONE QUARTZ BE APPLIED?

Residential uses such as kitchen countertops, islands, peninsulas; bath vanity tops, shower stalls and shower surrounds; table tops, fireplace surrounds, window sills, wainscoting, wall coverings and thresholds.

Commercial uses such as healthcare facilities, restaurants and retail spaces, offices; including conference tables, reception and desktops, countertops and credenzas, lobby/ interior walls, food preparation areas, laboratories, and inlays.

HanStone Quartz also makes a very remarkable flooring product in a home or office.

# WHAT IS THE DIFFERENCE BETWEEN QUARTZ AND SOLID SURFACE?

Quartz is a 100% natural hard mineral that provides strength and beauty. Solid surfaces are made of plastic polymers and aluminum that lack the brilliance and clarity of natural stone, and are more likely to scorch or scratch.

# HOW DO I CARE FOR HANSTONE QUARTZ?

Simply clean up any spills with soap and water. For routine cleaning, use a small amount of cleaner that is non-bleach and non-abrasive along with warm water and a damp cloth. Repeat as needed to keep the lustrous gloss and radiant sheen.

Although HanStone Quartz is resistant to stains, any type of spill should be cleaned as soon as possible. Any liquid spills, fruits, vegetables, or other foods should be wiped up and cleaned with soap and water.

# IS HANSTONE QUARTZ HYGIENIC?

HanStone Quartz is intrinsically a nonporous material preventing unwelcome germs, bacteria and mildew. It does not require sealing, conditioning and polishing.

# IS HANSTONE QUARTZ SCRATCH RESISTANT?

Because HanStone Quartz contains more than 90% quartz crystals, the hardest components of natural granite, the surface is highly scratch and impact resistant.

# HOW IS HANSTONE QUARTZ INSTALLED?

HanStone Quartz is installed by trained and certified fabricators. Using a certified fabricator ensures that HanStone Quartz is installed properly and under full warranty.

# WHERE CAN I FIND A LOCAL FABRICATOR, OR REQUEST A COLOR SAMPLE?

Please visit hanstonequartz.com to order color samples and locate a distributor nearest you. Distributors will direct you to a retailer or fabricator who stocks and installs HanStone Quartz in your area.

# DO I NEED TO FINISH OR SEAL HANSTONE QUARTZ?

No. Unlike natural stone products, HanStone Quartz is a nonporous surface you will NEVER have to seal.

# CAN YOU CUT DIRECTLY ON THE SURFACE OF HANSTONE QUARTZ?

It is a matter of choice. While HanStone Quartz is made of more than 90% natural quartz crystals that are up to six times harder than granite, it is always recommended to use a cutting board to prevent any dulling of the surface.

### WHEN PREPARING MEALS, CAN RAW FOODS SUCH AS VEGETABLES, ACIDIC FRUITS AND MEATS BE PLACED DIRECTLY ON THE SURFACE?

Yes. HanStone Quartz is a nonporous surface. This means germs and bacteria can not accumulate with regular cleaning. HanStone Quartz is an approved surface for commercial food preparation areas in restaurants.

# CAN HOT PLATES AND PANS BE PLACED DIRECTLY ON HANSTONE QUARTZ?

While HanStone Quartz can withstand heat, it is still advised to use hot pads or trivets when using cooking units such as electric frying pans, crock-pots or roaster ovens. To avoid damage, it is recommended to avoid placing hot pans directly on the surface.

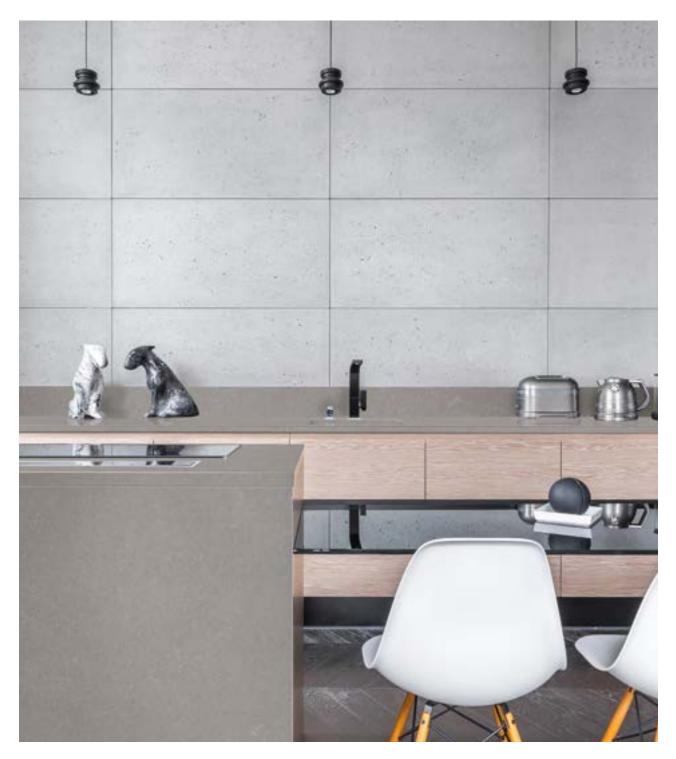
# HOW CAN I FIND OUT MORE AND/OR REQUEST PRODUCT LITERATURE?

Complete product descriptions, technical specifications, images and product literature, can be downloaded from the website or are available by calling HanStone Quartz toll free at 1.888.426.9421.

# WHAT ARE THE ADVANTAGES OF HANSTONE QUARTZ VS. OTHER SURFACES?

HANSTONE QUARTZ	SOLID SURFACE	GRANITE	TILE	LAMINATE	
~	~	<ul> <li>Image: A set of the set of the</li></ul>	>		SCRATCH RESISTANT
~	~				- STAIN RESISTANT
~	~				– MOLD & MILDEW RESISANT
~	~				– CHIP & CRACK RESISTANT
~		>	>		HEAT & BURN RESISTANT
~		~			– CHEMICAL, ACID & SOLVENT RESISTANT

# PRODUCT INFORMATION



# PRODUCT NAME

HanStone® Quartz

# PRODUCT DESCRIPTION

Quartz surfacing material.

# COMPOSITION/MATERIALS

A blend of 93% natural quartz (crystalline silica), synthetic resin, colorants and additives.

# PRODUCT CHARACTERISTICS

- Impact Resistant
- Stain Resistant
- Low Maintenance
- Heat Resistant
- Scratch Resistant
- Bacteria Resistant (Hygenic & Nonporous)
- NSF Compliant
- Smooth Surface

### APPLICATIONS

#### RESIDENTIAL USES

#### Kitchen

- Countertops
- Islands
- Peninsulas

#### Bath

- Vanity Tops
- Shower Stalls and Surrounds

#### Other

- Table Tops
- Fireplace Surrounds
- Window Sills
- Wainscoting
- Wall Coverings
- Thresholds

#### **COMMERCIAL USES**

#### Healthcare Facilities, Restaurants, Offices

- Conference Tables
- Reception and Desktops
- Countertops and Credenzas
- Lobby/Interior Walls
- Food Preparation Areas
- Laboratories
- Flooring and Inlays

### PRODUCT COMPARISON

#### QUARTZ VS. GRANITE

There are many surfacing materials available in the marketplace. Materials such as granite, marble, and a variety of stones are used in their raw form. Natural quartz surfaces are created with a combination of natural and synthetic materials to create the look and beauty of natural stone.

#### GRANITE

A natural, durable and hard stone (or rock), granite is composed of feldspar, quartz and mica. The hardest mineral found in granite is quartz crystal. There are countless patterns, grains and colors found in granite, but the ability to match different quarried granite is next to impossible.

While granite is abundantly available, not all granite has the same quality, and prices vary greatly with no long-term warranty coverage.

Naturally porous, granite requires sealing with proper and routine maintenance to prevent staining and bacterial growth. Granite is heat and scratch resistant, but prone to nicks, chips and cracks making it next to impossible to repair. The slightest imperfection in the stone will result in cracking.

Granite can be produced in regions with low standards in environmental and employee protection and in some instances with great environmental and human cost.

#### QUARTZ

A pure mineral with crystalline structure, quartz comes in a variety of colors due to trace minerals. Quartz has a Mohs Hardness of 7, compared to granite which is rated between 5 and 6.

Quartz surfaces are made from approximately 93% quartz crystals, combined with polyester resins and pigments to create the look of natural stone surfaces.

The fact that quartz is made in ISO regulated factories assures a very strong homogenous product—patterns and colors are maintained throughout.

Due to the instability of granite, it is generally required to add steel rods near any cutout or weak point. Quartz is a more stable and durable material, which generally does not require reinforcement.

As one of the hardest materials in nature, quartz surfaces are less likely to sustain chips, cracks and scratches. Quartz surfaces are also stain and scratch resistant and because they are nonporous, there's no need for sealing, conditioning and polishing.

# QUARTZ VS. GRANITE

GRANITE	QUARTZ	
<ul> <li>Image: A set of the set of the</li></ul>		REQUIRES SEALING
	×	STAIN RESISTANT
×	×	SCRATCH RESISTANT
	×	MOLD & MILDEW RESISTANT
	×	CHIP & CRACK RESISTANT
✓	×	HEAT & BURN RESISTANT
	×	THICKNESS CONSISTENCY
	×	LESS MATERIAL WASTE
	×	NSF 51
	<ul> <li>Image: A start of the start of</li></ul>	COMMERCIAL 10 YEAR WARRANTY

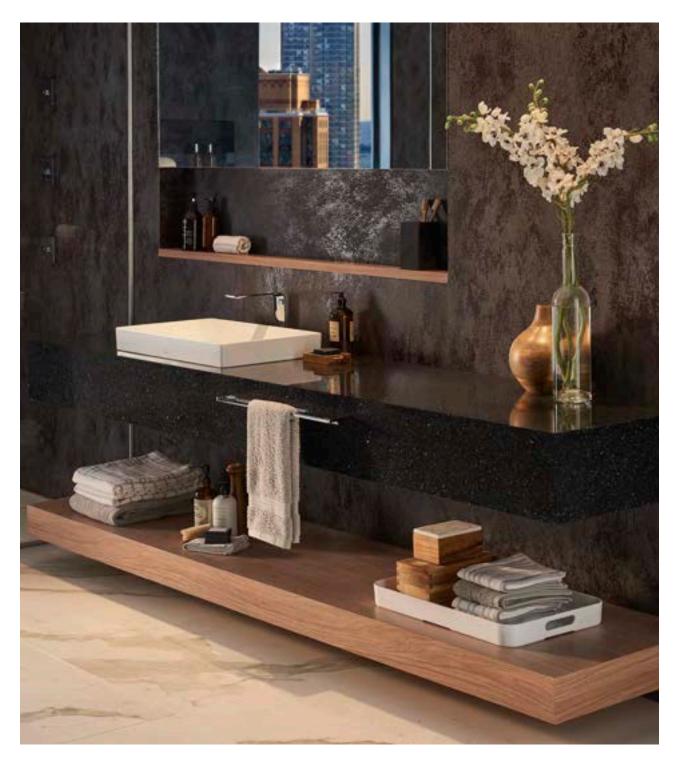
# CERTIFICATIONS

- NSF 51 (NATIONAL SANITATION FOUNDATION) FOR FOOD PREPARATION AND HANDLING AREA
- ISO 9001 (QUALITY MANAGEMENT SYSTEM)
- ISO 14001 (ENVIRONMENTAL MANAGEMENT SYSTEM)
- UL (UNIVERSAL LABORATORY)

\*NOTE: KFQ AND NSF CERTIFICATIONS VALID ONLY FOR PRODUCT MANUFACTURED IN KOREA.



# UNITED STATES SPECIFICATIONS



Spec Note: This proprietary guide specification is intended for use by experienced specification writers when specifying composition quartz fabrications, such as countertops, vanity tops, backsplashes, etc.

Spec Note: This master guide specification section has been produced by a Certified Construction Specifier (CCS), in accordance with the recommended standards and practices described in the CSI Manual of Practice. It specifically uses the standardized formats MasterFormat<sup>™</sup>, SectionFormat<sup>™</sup> and PageFormat<sup>™</sup> to organize the information.

Spec Note: Optional choices are indicated by using square brackets to surround the optional text such as [\_\_\_\_\_]. Delete any inappropriate choices, and then remove any remaining square brackets prior to final printing. Where selection is indicated with an [OR] statement, select the appropriate paragraph and delete the inappropriate statement. Delete all SPEC NOTEs and [OR] statements prior to final printing.

\*Disclaimer: The manufacturer has reviewed the product information contained in this guide specification. The information is organized and presented in a format consistent with CSI formats to assist the specification writer in writing the project specification section. The specification writer is responsible for product selection as well as the use and application of this information, and should contact the manufacturer to ensure that all options are available and that the associated specification information is valid and correct.

### SECTION 06 6119

#### QUARTZ SURFACING FABRICATIONS

#### Part 1: General

1.01 Section Includes

A. Composition quartz surfaces

Spec Note: Edit the following paragraphs as required to suit project requirements.

#### 1.02 Related Sections

- A. Section 06 10 00 Rough Carpentry
- B. Section 06 40 00 Architectural Woodwork
- C. Section 07 92 00 Joint Sealants
- D. Section [22 40 00 Plumbing Fixtures] [22 41 00 Residential
   Plumbing Fixtures] [22 42 00 Commercial Plumbing Fixtures]
- E. Section [\_\_\_\_] [\_\_\_\_]

Spec Note: Edit the following to suit project requirements.

#### 1.03 References

- A. ASTM C920-05: Standard Specification for Elastomeric Joint Sealants
- B. [ASTM E84-05e1: Standard Test Method for Surface Burning Characteristics of Building Materials]
- C. [NFPA 255-2006: Standard Method of Test of Surface Burning Characteristics of Building Materials]
- D. NSF/ANSI 51-2002: Food Equipment Materials

#### 1.04 Submittals

- A. Submit shop drawings, [and] product data [and Material Safety
- Data Sheets] as specified in Section [01 00 10] [01 33 00] [\_\_\_\_].
  B. Shop Drawings: including plans, sections, and large scale details, and indicating methods of fabrication and attachment.
- C. Product Data: manufacturer's standard data sheets for composition quartz materials; and illustrating full range of standard colors.
- D. [Material Safety Data Sheets: individual sheets for each material specified].

Spec Note: Delete the following article describing samples if color selection is already specified.

#### 1.05 Samples

- A. Submit samples as specified in Section [01 00 10] [01 33 00] [\_\_\_\_\_].
- B. Samples: 4" x 4" (100 x 100 mm) size samples, illustrating color availability for final selection by [Architect] [Engineer].

#### 1.06 Quality Assurance Submittals

- A. Submit fabricator qualification certificates, test reports and manufacturer's instructions as specified in Section [01 00 10] [01 43 00] [\_\_\_\_].
- B. Fabricator Qualification Certificates: proof of fabricator qualifications, including ISO certifications.
- C. Test Reports: including copies of flammability tests reports and food preparation zone test reports.
- Manufacturer's Instructions: including copies of manufacturer's standard fabrication and installation guidelines.

#### 1.07 Closeout Submittals

- A. Submit closeout submittals as specified in Section [01 00 10] [01 78 00] [\_\_\_\_].
- B. Closeout Submittals: including care and maintenance instructions, and extended warranties; for inclusion in operating and maintenance manuals.

#### 1.08 Quality Assurance

- A. Fabricator/Installer Qualifications: minimum [three] [\_\_\_\_\_] years
   experience in fabricating and installing composition quartz surface
   materials, or a distributor's certification comprised of content.
- B. Manufacturer's Certification: current ISO 9001 and 14001 certificates.

Spec Note: Consider specifying job site mock-ups on larger type projects, where quantities of material would justify the added expense of constructing, reviewing and approving a mock-up of each component prior to subsequent fabrication and installation proceeds.

#### 1.09 Mock-Ups

- A. Provide job site mock-up as specified in Section [01 00 10][01 43 00] [\_\_\_\_].
- B. Mock-Up: one full-size example of each component.
- C. Accepted mock-ups will be used as a standard for acceptance of subsequent work.
- D. Accepted mock-ups [may] [may not] remain as part of the completed work.

#### 1.10 Delivery, Storage and Handling

- A. Refer to Section [01 00 10] [01 66 00] [\_\_\_].
- B. Do not deliver materials until spaces are ready for installation.

#### 1.11 Environmental Requirements

A. Maintain areas at normal occupancy temperature and humidity levels for a minimum of 72 hours prior to and immediately following installation.

#### 1.12 Warranty

- A. Submit a manufacturer's extended warranty in accordance with the General Conditions of the Contract.
- B. Manufacturer's Extended Warranty: Commercial 10-Year Limited
   Warranty against manufacturing defects in sheet material.
   HanStone Quartz offers a Residential Lifetime Limited Warranty.

#### 1.13 Extra Materials

- A. Supply extra materials as specified in Section [01 00 10] [01 78 00] [\_\_\_\_\_].
- B. Extra materials: minimum 4'2" (0.4 m<sup>2</sup>) per 50 linear feet (15 linear metres) of each color of installed quartz surfacing.

#### Part 2: Products

#### 2.01 Manufacturers A.

turers Manufacturers of composition quartz surfacing having material considered acceptable for use. 1. Hyundai L&C, as distributed by [\_\_\_\_], Telephone: [\_\_\_\_]. 2. [\_\_\_\_]. 3. [\_\_\_\_]. Substitution Procedures: refer to Section [01 00 10] [01 25 00] [\_\_\_\_].

#### 2.02 Materials

Β.

Composition Quartz Sheet: [3/4" (20 mm)] [1<sup>1/8</sup>" (30 mm)] thick,
 comprised of silicon dioxide quartz chips set in a proprietary matrix; and
 meeting the following criteria.

Spec Note: Select appropriate test method as determined by requirements of local authorities.

- 1. Flammability: [Class A when tested to NFPA 255] [Class A when tested to ASTM E84].
- 2. Hardness (Mohs Scale): 7
- 3. Density (KSF 2530): 2.465 g/cm<sup>2</sup>
- 4. Stain Resistance (ANSI Z124.6.5.2): Pass
- 5. Tensile Strength (ASTM D638): 17.8 MPa
- 6. Compressive Strength (ASTM C170): 203 MPa wet, 209 MPa dry

Spec Note: Verify compliance with requirements of local authorities.

# 7. Food Equipment Material Compliance: [Food Zone to NSF/ANSI 51] [\_\_\_\_].

Spec Note: Select desired finish, or where more than one finish is desired, ensure locations of different finishes are identified on the drawings.

8. Finish: [Polished] [\_\_\_] [as indicated on drawings].

Spec Note: Select desired color from manufacturer's current catalogue, or indicate color(s) will be selected later by the designer. Specify maximum quantity of colors to be used when more than one color is required.

В.	<ol> <li>9. Color: [[] color] [[single color] [maximum [2] [3]</li> <li>[4] colors] as selected by [Architect][Engineer]].</li> <li>10. Product and Manufacturer's Name: HanStone Quartz by Hyundai L&amp;C.</li> <li>Brackets and Supports: cold-formed steel, galvanized finish;</li> </ol>
	pre-drilled for fasteners; profiles and sizes as noted on shop drawings.
2.03 Accessories	
A.	Adhesive for Bonding Composition Quartz Surfacing: two-
	component premium grade adhesive, color to match quartz surfacing.

- B. Adhesive for Bonding Quartz to Other Materials: one-component silicone, to ASTM C920.
  C. Joint Sealant: mildew-resistant silicone sealant, as specified in
- C. Joint Sealant: mildew-resistant silicone sealant, as specified in Section [07 92 00] [\_\_\_\_].

#### 2.04 Fabrication

Α.	Fabricate components in shop to greatest extent practical, to
	sizes and profiles indicated in approved shop drawings.
Β.	Form joints between components to be inconspicuous in
	appearance and without voids.
C.	Provide holes and cutouts for bowls, sinks, plumbing fixtures and
	accessories as indicated on drawings. Finish edges to remove saw
	marks, nicks and scratches.
Π	Ensure polycocking, chinning or broakage of components during forming

D. Ensure no cracking, chipping or breakage of components during forming.

#### PART 3: EXECUTION

#### 3.01 Examination

Spec Note: Coordinate cabinet installation tolerances with Section 06 40 00 - Architectural Woodwork.

- A. Examine substrate upon which quartz surfacing is to be installed.
   Verify that support framing is sufficient to support quartz surfacing, and is level to within [1/8" (3 mm) in 10' [3.0 meters)][\_\_\_\_].
- B. Beginning of work implies acceptance of existing conditions.

#### 3.02 Installation

- A. Install materials plumb and level.
- B. Secure materials to substrate in accordance with manufacturer's installation guidelines.

- C. Form field joints using manufacturer's recommended adhesive.
- D. Avoid placing joints within [12" (300 mm)] [\_\_\_\_] of quartz surface edges and terminations.

Spec Note: Delete the following paragraph if backsplashes are not required. Otherwise, edit to suit project requirements.

- E. [Install backsplashes and endsplashes fabricated from[1/2"(13mm)]
  [3/4" (20 mm)] thick composition quartz surfacing material.
  Adhere to substrate with approved adhesive, and seal joint along countertop].
- F. Seal between wall and components with joint sealant, as specified in Section [07 92 00] [\_\_].

Spec Note: Delete the following paragraph if plumbing fixtures are not required. Otherwise, edit to suit project requirements.

G. [Coordinate connection of plumbing fixtures with Section [22 40 00] [22 41 00] [22 42 00] [\_\_\_\_]].

#### 3.03 Adjusting and Cleaning

- Repair minor imperfections and cracked seams and replace areas of severely damaged surfaces in accordance with manufacturer's guidelines.
- B. Remove excess adhesive and sealant from visible surfaces
- C. Final Cleaning: Refer to Section [01 74 00] [\_\_\_\_]. Clean quartz surfaces in strict accordance with manufacturer's instructions.

#### 3.04 Protection

Α.

Protect quartz surfaces from damage with heavy paper or cardboard covers. Maintain protection until [date of Substantial Completion] [acceptance by Owner].

# TECHNICAL DATA SHEET

1	Abrasion Resistance (Weight Loss]	ASTM D 4060	1094 mg
2	Izod Impact Strength	ASTM D 256 (Method A)	13.3 J/m
3	Boiling Water Resistance	NEMA LD3 2000 3.5	NO EFFECT
4	Colorfastness	ANZI Z124.6.5.1	PASS
	Compression Strength (Dry)	ASTM C 170	209 MPa
5	Compression Strength (Wet)	ASTM C 170	203 MPa
6	Density	KSF 2530	2.465 g/cm3
7	Deflection Temperature Under Load (1.82) MPa	ASTM D 648	243 °C
	Flammability: Flame Spread	ASTM E-84, NFPA	CLASS A
8	Smoke Developed	255	CLASS A
9	Flexural Modulus	ASTM D 790	39.7 GPa
	Flexural Strength	ASTM D 790	42.4 MPa
10	Freeze & Thaw Cycling	ASTM C 1026	Unaffected
11	Fungal & Bacterial Resistance	ASTM G 21	No Growth
12	Barcol Hardess	ASTM D 2583	86
13	Rockwell Hardness (HRM)	ASTM D 785 (Procedure A)	115
14	Point Impact	ANSI Z124.6.4.2.1	Pass
15	Slip Resistance: Static Coefficient of Friction (Dry)	ASTM C1028	0.67
15	Static Coefficient of Friction (Wet)	ASTM C 1028	0.49
16	Stain Resistance	ANSI Z124.6.5.2	Pass
17	Tensile Strength	ASTM D 638	17.8 MPa
18	Thermal Expansion	ASTM D-696	1.52 x 10-5 in/in/°C
19	Water Absorption: Long-term and Short-term	ASTM D 570 24hr. Immersion	<0.011%
20	Wear and Cleanability	ANSI Z124.6.5.3	Pass

# TECHNICAL INFORMATION



# PRODUCT NAME

HanStone® Quartz (HanStone is a registered trademark of Hyundai L&C Corporation.)

# MANUFACTURER/SUPPLIER

Hyundai L&C Co., Ltd. 7\_8F, CENTER1 Bldg, 26, Uljiro 5-gil, Jung-gu, Seoul, 04539, Republic of Korea Tel: 82.2.729.2051 Fax: 82.2.729.1447

### CONTACT FOR PRODUCT INFORMATION OR EMERGENCY

Hyundai L&C USA 2839 Paces Ferry Rd, Suite 1100 Atlanta, GA 30339 Tel: 888.426.9421 Tel: 770.431.6110 Fax: 770.431.6135

# COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	% BY WEIGHT	CAS #
Synthetic Resin	< 10	-
Quartz (Crystalline Silica)	> 40 ~ 90	14808-60-7
Colorant	< 1 Trade Secret	
Additives	4 1 Trade Secret	

# MATERIAL SAFETY DATA SHEET



# HAZARDS IDENTIFICATION

#### POTENTIAL HEALTH EFFECTS

- This product is not hazardous as shipped.
- However, sawing, routing, drilling and/or sanding can generate harmful dust.
- Dust generated during handling of this product can irritate eyes, nose and respiratory passages and cause sneezing and coughing.
- Dust generated during handling of quartz surfaces can contain particles of crystalline silica.
- Overexposure to airborne crystalline silica can cause silicosis, symptoms of which include difficulty in breathing, wheezing, coughing, and impairment of lung function.

# FIRST AID MEASURES

- Inhalation: Move to well-ventilated area. Give artificial respiration if not breathing.
   Give oxygen if breathing is impaired. Call a physician.
- Eye Contact: Rinse immediately with plenty of water. Call a physician.
- Skin Contact: Not Applicable
- Ingestion: Not Applicable

### FIRE HAZARD DATA

- Extinguishing Media: Water, Dry Chemical, CO<sub>2</sub>, Foam.
- Firefighting Instructions: Keep personnel removed and upwind of fire. Wear a self-contained breathing apparatus.

# ACCIDENTAL RELEASE MEASURES

- Safeguard (Personnel): Note: Review Fire-Fighting Instructions and Handling (Personnel) sections before proceeding with clean up. Use appropriate Personal Protectives during clean up.
- Spill Clean Up: Not Applicable

## STORAGE AND HANDLING

- Handling (Personnel): Avoid breathing dust generated during sawing, sanding, routing, or drilling. Avoid breathing fumes generated during sawing, sanding, routing, or drilling.
- Storage: Store in a cool place. Avoid extreme weather/temperature conditions. Avoid exposure to direct sunlight. Never store material flat. Store materials on storage system to provide full support of the entire length and width of the material that is perfectly leveled.

# EXPOSURE CONTROLS & PERSONAL PROTECTION

- Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits.
- National occupation exposure limits: 0.3mg/m3 OSHA TWA (total dust) Quartz
   0.1mg/m3 OSHA TWA (airborne particles of respirable size) Quartz
- Personal Protection: Protective equipment: Eye/Face/Hand Protection. Wear safety protector during operations such as sawing, sanding, drilling, or routing.

# PHYSICAL AND CHEMICAL DATA

- Safety Data
  - -Decomposition Temperature: None
  - -Water Solubility: Insoluble
- Appearance as Delivered
  - -Form: Solid, sheets and shaped articles.
  - -Color: Various
  - -Odor: None (negligible odor)
- Flash Point: Not Applicable
- Autoignition Temperature: Not Applicable

# STABILITY AND REACTIVITY

- Stability: Stable
- Conditions to Avoid: Stable at normal condition
- Incompatibility (materials to avoid): None reasonably foreseeable
- Hazardous Decomposition Product: In the event of fire, carbon monoxide hydrocarbons smoke may be produced. Fumes of metal oxides and mica particles could also be released.

# TOXICOLOGICAL INFORMATION

- Operations such as sawing, routing, drilling and sanding can generate dust.
- High concentrations of dust can irritate eyes, nose and respiratory system and cause coughing and sneezing.
- Dust generated during handling of quartz surfacing products can contain particles of quartz (crystalline silica).
- Overexposure to airborne quartz can cause silicosis.
- Symptoms of silicosis include coughing, difficulty in breathing, wheezing and progressive impairment of lung function.
- Epidemiology studies show limited evidence of lung cancer in occupations involving exposure to crystalline silica (quartz), such as stonecutters and granite industry workers.

# ECOLOGICAL INFORMATION

- Biodegradation: No information available
- Bioaccumulation: No information available
- Aquatic Toxicity: No information available (the product is insoluble and sinks in water)
- When properly handled and used in accordance with guidelines, our experience suggests that there is no negative effects to be expected on the environment.

# DISPOSAL CONSIDERATIONS

- Waste should be disposed of in a place certified to accept such materials in accordance with federal, state, and local regulations.
- Contaminated Packaging: Not Applicable

# TRANSPORT INFORMATION

• Product is not classified for any mode of transportation.

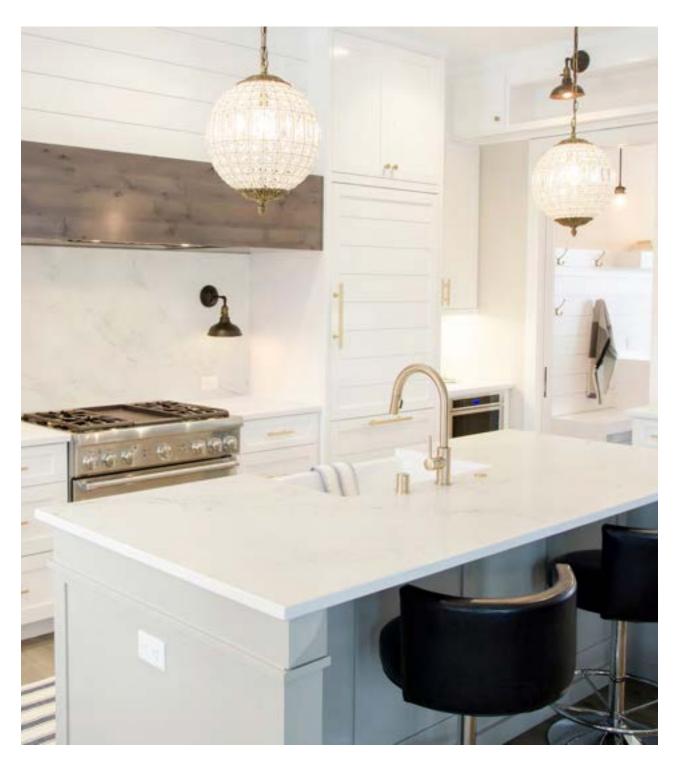
# REGULATORY INFORMATION

This product does not require labeling: Quartz U.S.A. CERCLA103 (40CFR302.4): none SARA302 (40CFR355.30): none SARA304 (40CFR355.40): none SARA313 (40CFR372.65): none OSHA313 (29CFR1910.119): none SARA311/312 (40CFR370.21): Acute: no, Chronic: yes, Fire: no, Reactivity: no

# OTHER INFORMATION

- The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
- Responsibility for MSDS: "HanStone Quartz" products.
- This information is based on technical information deemed reliable and is subject to revision as additional information is made available.

# CARE & MAINTENANCE



### INTRODUCTION

The natural beauty of HanStone Quartz is easy to maintain. Made from the finest natural quartz, HanStone Quartz is the premier surfacing material with all the beauty of natural stone without its drawbacks. HanStone Quartz is a nonporous material that is highly stain, scratch, and heat resistant; however, it is not stain, scratch, or heat proof. Therefore, using common sense and the right care and maintenance your HanStone Quartz will remain beautiful for years to come.

### ROUTINE CARE AND MAINTENANCE

Simply clean HanStone Quartz with soap and water on a regular basis to keep the lustrous gloss and radiant sheen. For routine cleaning, use warm water and a damp cloth with small amount of non-abrasive cleaner that does not contain bleach.

Although HanStone Quartz is resistant to stains, spills should be cleaned as soon as possible. Liquid spills, fruits, vegetables, or other foods should be wiped up and cleaned with soap and water.

### PREVENTING DAMAGES



HanStone Quartz is designed to be resistant to heat and can withstand exposure to normal cooking environments for brief periods of time without being damaged. Although HanStone Quartz is more resistant to heat compared to most surfacing materials in the market, all surfacing materials, including stone, can be damaged by extreme temperature changes, whether prolonged or sudden. Trivets and hot pads should be used when placing hot skillets, pans, or other heat generating appliances on the surface.



## **SCRATCHES**

HanStone Quartz's durable surface is designed to withstand normal use. While it is resistant to scratches, cuts and chipping, cutting directly on HanStone Quartz should be avoided. Using cutting boards and taking care not to drop or move heavy objects on the surface will help to ensure the long-lasting beauty of HanStone Quartz.



### CHEMICAL

There are some chemicals that may damage HanStone Quartz. Avoid exposing HanStone Quartz to any strong chemicals and solvents. It is important to note some of these chemicals and solvents can be found in household items like paint and stain strippers/ removers that contain trichloroethane or methylene chloride, nail polish removers, bleach, furniture cleaners, oil soaps, permanent markers or inks and chemicals with high alkaline/ PH levels (oven cleaners, drain openers, etc.). Avoid using cleaning products that contain oils, powders or abrasives.

Though long-term or frequent exposure must be avoided at all times, products that contain acetone or bleach may be used with short-term exposure (removing and rinsing within 5 minutes of application) to clean difficult stains or residues. Always handle such cleaning agents with care and rinse the applied surface with water completely afterwards.

# CHEMICALS TO AVOID

The below list of chemicals should be avoided with HanStone Quartz; however, the below list is not a complete list, and there may be other chemicals not listed here that may damage HanStone Quartz. The effect of any chemical usage on HanStone Quartz is ultimately dependent on the type of chemical, the length of exposure, and the degree of concentration.

- Oil soaps, bluing agents, dyes, stains, paint thinner or strippers
- Solvents such as acetone, nail polish, lacquer thinner, or bleach (short-term exposure is acceptable for purpose of cleaning difficult stains based on removing and rinsing applied area within 5 minutes)
- Chlorinated solvents such as trichloroethylene or methylene chloride
- Benzene, toluene, methyl ethyl ketone
- Concentrated acids such as hydrocyanic acid, hydrofluoric acid, hydrochloric acid, sulfuric acid, nitric acid
- Chemicals with high alkaline/pH levels (pH ightarrow 10)

# REMOVING DIFFICULT SPILLS

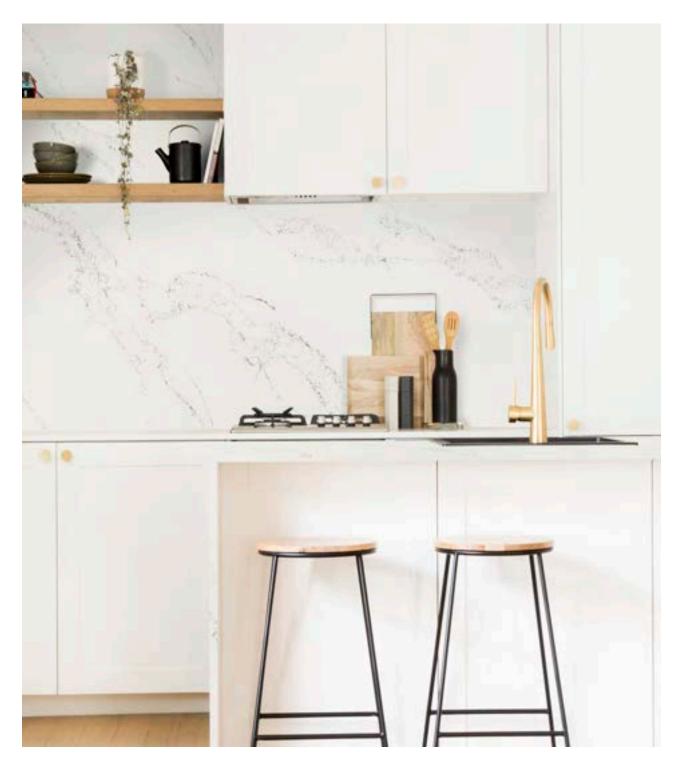
For stubborn or dried spills, if routine cleaning procedures do not work, use non-abrasive cleaning pad along with common household cleaners like Formula 409® Glass and Surface Cleaner\* or a comparable cleaning product. If gum, nail polish, paint, or other substances are accidentally allowed to adhere to the surface, they can be removed with the use of plastic scraper or putty knife to gently scrap off the substance and by following routine cleaning procedures.

### GENERAL PRECAUTIONS

HanStone Quartz is made from the finest natural quartz, making it one of nature's hardest surfaces. As a result, HanStone Quartz will keep its beauty for years without sealing or polishing. It is also non-porous, so it won't absorb stains or harbor harmful bacteria. However, as general precaution, maintain your HanStone Quartz by using trivets and cutting boards to avoid damages caused by extreme or sudden change in temperature or impact on surface.

\*Formula 409® Glass & Surface Cleaner is a registered trademark of the Clorox Company.

# RESIDENTIAL & COMMERCIAL WARRANTIES



### RESIDENTIAL LIFETIME LIMITED WARRANTY FOR NORTH AMERICA

Hyundai L&C Corporation (hereunder "Hyundai L&C") warrants to the original purchaser/ owner in the U.S. and Canada that its product HanStone Quartz, shall be free from manufacturing defects in material under normal use and service. Hyundai L&C, at its discretion, will repair or replace product failures only due to manufacturing defects.

This Lifetime Limited Warranty is available only to the original owner(s) of the residence in which HanStone Quartz has been originally installed. The Lifetime Limited Warranty is non transferrable and applies to HanStone Quartz product only, for interior, residential application(s) in North America. This warranty is void unless the product has been paid for in full, and the product must be registered on or before 30 days of installation.

Under this Lifetime Limited Warranty, Hyundai L&C's authorized agents must be permitted sufficient time and opportunity to inspect the product(s), evaluate and respond to any claim(s). All decisions regarding the existence of manufacturing defects or affecting this warranty shall be made by Hyundai L&C and shall be final and binding upon all parties.

The professional fabricator/installer is responsible to inspect the HanStone Quartz material before fabricating and/or installing the HanStone Quartz product. It is also the end user's responsibility to inspect the finished product before permanent installation. This warranty does not cover any defects that were visible at the time of fabrication/installation and were not avoided during fabrication/installation.

All parties must agree to comply with the terms and conditions outlined in this Lifetime Limited Warranty.This Lifetime Limited Warranty applies to product(s) installed after January 1, 2010.

# EXCLUSIONS FOR HANSTONE QUARTZ RESIDENTIAL LIFETIME LIMITED WARRANTY:

1.	Failure to comply with Hyundai L&C's recommended storage, handling,
	usage, supports, cutouts, and Care & Maintenance guidelines.
2.	Exterior application.
3.	Flooring application.
4.	Fabrication or installation error.
5.	Damage caused by improper use or abuse includes, but not limited
	to, damage from accidents, abuse of impact, chemical damage,
	acts of nature, job-site conditions, or structural movement.
6.	Installed HanStone Quartz product that is removed from the original
	place of installation.
7.	Seam appearance, seam performance, adhesives, caulk and/or
	other accessory items.
8.	Thermoforming: Product failure due to bending or curving is not
	covered under warranty.
9.	Color Variance: HanStone Quartz is composed of natural quartz, as
	a result, variance in color, size, shape and particulate distribution is
	an inherent trait expected of this product.

### EXCLUSIONS CONTINUED

10.	Chips and Cracks: Chips may be caused by impact. Cracks may be
	cause be "dry" cutting, polishing, unevenness or improper edge
	details. Minimum requirements for fabrication and installation
	must be followed.
11.	Scratches: HanStone Quartz is scratch resistant, but not scratch
	proof. Cutting boards are highly recommended.
12.	Blemishes: A certain level of blemishes is an inherent trait expected
	of this product.
13.	Minor conditions such as stains or water spots. HanStone Quartz is
	stain resistant, but not stain proof. To clean tough stains, please
	visit our care and maintenance section of our website.
14.	Supplemental repair including, but not limited to, electrical, tile
	or wall surfaces, backsplashes, cabinetry, freight, and plumbing

- modifications necessary to repair HanStone Quartz.
  15. Product usage for commercial application(s) including, but not limited to, installation in store, office or other places of business.
- 16. Appearance of edge, re-fabrication, or polishing of surface slabs.
- Exposure to extreme heat. Trivets must be used for any hot pots, pans, crock pots, and for any heat generated items. Heat resistant pads are highly recommended.

When choosing a color, please refer to samples only as a general indication of a particular color's design pattern, aesthetics, and hue. Samples are not guaranteed to be an exact replica of HanStone Quartz slabs and may vary from the actual, installed HanStone Quartz surface.

No other warranties, express or implied, are made, including merchantability or fitness for a particular purpose. Except as provided herein, Hyundai L&C is not liable in tort or contract for any loss or direct, incidental, or consequential damages as a result of the use or the inability to use HanStone Quartz. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state, or in Canada, from province to province. Some states/provinces do not allow the exclusion or limitation of implied warranties or of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Hyundai L&C makes no other guarantee, representation, or warranty (express or implied) with respect to its products, except as expressly stated herein. No one other than Hyundai L&C is authorized or permitted to make or provide any promise, representation or warranty with respect to HanStone Quartz.

To register, please visit us at hanstonequartz.com. To obtain service under this warranty, first contact the source from which you purchased HanStone Quartz.

For more information, please contact Hyundai L&C USA as below:

Hyundai L&C USA 2839 Paces Ferry Rd, Suite 1100 Atlanta, GA 30339 Tel: 888.426.9421 Tel: 770.431.6110 info@hanstoneguartz.com

### COMMERCIAL 10-YEAR LIMITED WARRANTY FOR NORTH AMERICA

Hyundai L&C Corporation (hereunder "Hyundai L&C") warrants to the original purchaser/ owner in the U.S. and Canada that its product HanStone Quartz, shall be free from defect in material under normal use and service, for ten (10) years from date of installation to the original purchaser. Hyundai L&C, at its discretion, will provide material only, to repair or replace product failures due to manufacturing defect during the 10 years following initial installation.

The professional fabricator/installer is responsible to inspect the HanStone Quartz material before fabricating and/or installing the HanStone Quartz product. It is also the end user's responsibility to inspect the finished product before permanent installation. The user of HanStone Quartz product assumes full liability for usage of HanStone Quartz. This warranty applies to HanStone Quartz Surface product only for interior, commercial application(s) in North America. This warranty is non-transferable and is void unless the product has been paid for in full.

# EXCLUSIONS FOR HANSTONE QUARTZ COMMERCIAL 10-YEAR LIMITED WARRANTY:

1.	Failure to comply with Hyundai L&C's recommended storage, handling,
	usage, fabrication/installation guide, and Care & Maintenance
	guidelines.
2.	Fabrication or installation error.
3.	Any harm, loss, injury, liability, or any expense, including, not
	limited to, labor, associated with original installation or repair or
	replacement.
4.	Damages caused by accidents, abuse, misuse, exposure to
	extreme heat, act of nature, job site conditions, or structural
	movement.
5.	Installed HanStone Quartz product that is removed from its
	original place of installation.
6.	Seam appearance or performance.
7.	Color variance or minor conditions such as stains or water spots.
8.	Materials or product produced by other manufacturers, whether or
	not used in association with HanStone Quartz.
9.	Without limitation, any indirect, punitive, or consequential damage
	or loss.
10.	Any warranty or representation made on behalf of Hyundai L&C by a
	third party without authorization by Hyundai L&C.

COMMERCIAL WARRANTIES

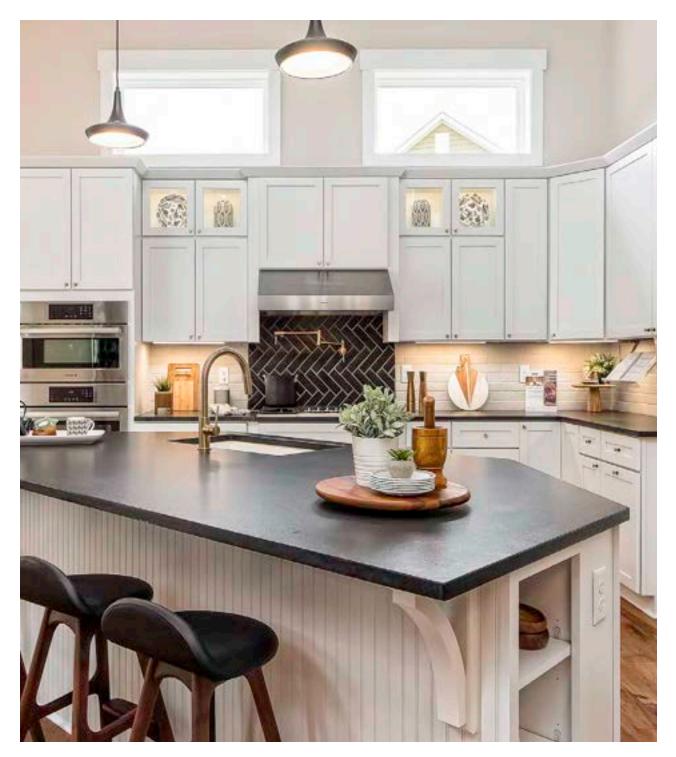
No other warranties, express or implied, are made, including merchantability or fitness for a particular purpose. Except as provided herein, Hyundai L&C is not liable for any loss or direct, incidental, or consequential damages as a result of the inability to use HanStone Quartz.

To obtain service under this warranty, first contact the source from which the HanStone Quartz product was originally purchased. In addition, Hyundai L&C or its authorized agents must be permitted to inspect the HanStone Quartz product being claimed under this warranty, with full cooperation by the party requesting service under this warranty.

For more information, please contact Hyundai L&C USA as below:

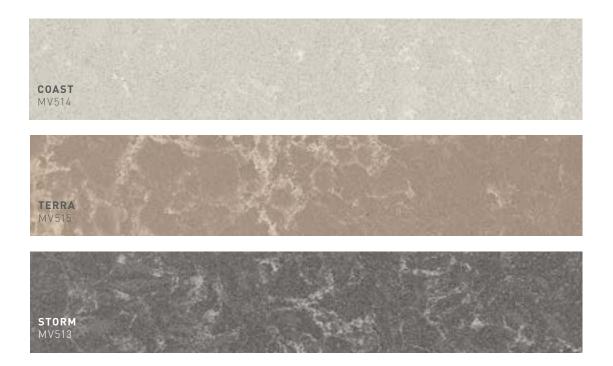
Hyundai L&C USA 2839 Paces Ferry Rd, Suite 1100 Atlanta, GA 30339 Tel: 888.426.9421 Tel: 770.431.6110 info@hanstonequartz.com

# COLOR COLLECTIONS



# UNERRTHED COLLECTION

A sense of luxury inspired by remarkable places and beautiful ideas. Understated elegance and effortless style define this collection of five new sophisticated designs that excite the senses and inspire elevated living.



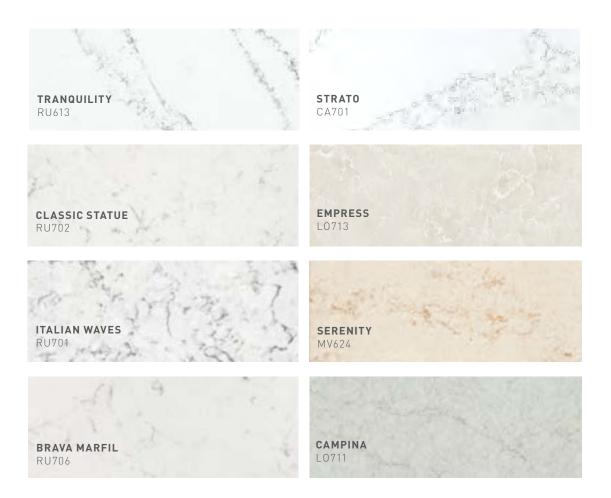
# BOUTIQUE

A sense of luxury inspired by remarkable places and beautiful ideas. Understated elegance and effortless style define this collection of five new sophisticated designs that excite the senses and inspire elevated living.



# CASCINA COLLECTION

Our Cascina Collection warmly recalls the natural world with touches, veining and rich undertones that are irresistibly classic. The unique patterns and colors in this marble-inspired Collection, glossy, wispy, sophisticated—are ideal for any workspace or kitchen.



### COLOR PORTFOLIO

HanStone Quartz offers a rich color palette, accented with classic hues and patterns that are both intricate and delicate. The result is remarkable depth and clarity. Sophisticated and distinctive, HanStone blends the durability of quartz with timeless beauty and style.

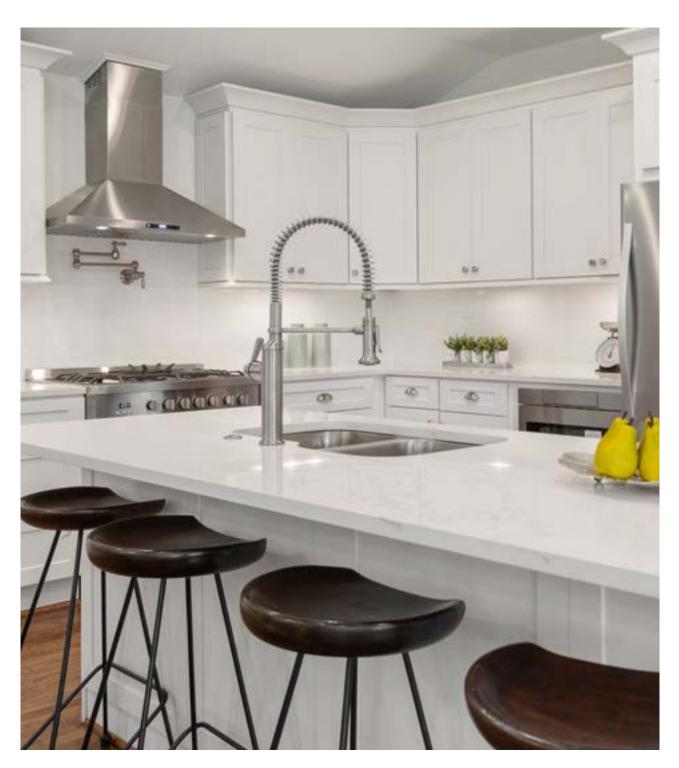


COLOR COLLECTIONS

### COLOR PORTFOLIO CONTINUED



# CONTACT INFORMATION



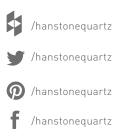
# GLOBAL HEADQUARTERS

Hyundai L&C Co., Ltd. 7\_8F, CENTER1 Bldg, 26, Uljiro 5-gil, Jung-gu, Seoul, 04539, Republic of Korea Tel: 82.2.729.2051 Fax: 82.2.729.1447

# NORTH AMERICAN OFFICE

Hyundai L&C USA 2839 Paces Ferry Rd, Suite 1100 Atlanta, GA 30339 Tel: 888.426.9421 Tel: 770.431.6110 Fax: 770.431.6135

# HANSTONE QUARTZ ONLINE





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