

For
Architect &
Designer

**LOTTE
ADVANCED
MATERIALS**
Staron

LOTTE
ADVANCED MATERIALS

LOTTE ADVANCED MATERIALS, a creator of high-quality materials and refined sensibilities.

LOTTE ADVANCED MATERIALS, formerly Cheil Industries which was established in 1954 as the founding parent company of the Samsung Group, kicked off its chemical business as part of its portfolio expansion strategy.

In 1992, the company started its solid surface business. In 2009, it made a foray into engineered stone business in a move to strengthen its business portfolio further.

In May 2016, the company was renamed as LOTTE ADVANCED MATERIALS, a move forward toward achieving a greater vision of becoming a global powerhouse of high-quality materials.

Widely used for interiors of kitchen, bathroom, office spaces, and homes. The combination of high technology and high design in these materials can turn any remodeling project & new construction project into a fully-functional work of art. LOTTE ADVANCED MATERIALS products are a top-of-the-line product which has been certified with ISO 9002 (International Quality Certification) and ISO 14000 (International Environmental Management certification). Furthermore, it has been certified with NSF51 (Food Zone), meeting the stringent standards for health and environmental science industries. Our high-quality solid surface & quartz surface are an integration of expertise and technology.

staron®

Solid Surfaces

Your Story Teller

Staron® Premium Solid Surface

The internal composition of Staron® is uniform and non-porous with luxurious soft textures. It is available in attractive natural textures of a wide range of colors and is a practical choice for kitchens, living rooms, bathrooms, and an artful addition to your living spaces.

The infinite design possibilities with Staron® can produce a variety of creative living spaces and cultures.



DEPENDABLE PERFORMANCE



KEEPING THE SURFACE HYGIENIC



DIMENSIONAL FLEXIBILITY



INFINITE RANGE OF COLORS



SEAMLESS



ILLUMINATING THE ENVIRONMENT



GLOBAL NETWORK



EXCELLENT QUALITY

DEPENDABLE PERFORMANCE

Innovation meets superior standard
Offering higher performance to suit commercial environments
Homogenous material which allows the surface to be easily restored

KEEPING THE SURFACE HYGIENIC

Designed with end-users in mind, your environment can be protected from the growth of bacteria or fungi
Resistant to harsh chemicals
Easy to maintain

DEPENDABLE PERFORMANCE
& KEEPING THE SURFACE HYGIENIC

* HD Expo 2013, Las Vegas, USA

DIMENSIONAL FLEXIBILITY & INFINITE RANGE OF COLORS

DIMENSIONAL FLEXIBILITY

Bringing another layer of depth & sophistication
Free forming of 3 dimensional representation is possible
Excellent workability & precise expression of various design

INFINITE RANGE OF COLORS

From natural to vivid palette tones, Staron® offers over 140 range of colors
World's first "Jewel-like", Tempest®
Collaboration with color trend experts to develop trendy color choices

* HD Expo 2013, Las Vegas, USA

SEAMLESS

Easily create variety of smooth forms that is like an artwork
These subtle features increase the value of the completed design

ILLUMINATING THE ENVIRONMENT

Excellent processability and backlighting to create various image and text related effects
Brightness & Transparency can be adjusted by the modifying the thickness

SEAMLESS & ILLUMINATING THE ENVIRONMENT

* Milan Design Weeks 2013, Italy

GLOBAL NETWORK

Operating regional branch offices around the world in addition to global distribution networks

EXCELLENT QUALITY

High quality control policy & 10 years warranty

Certified eco-friendly, Staron® creates for you a comfortable and safe environment

GLOBAL NETWORK
& EXCELLENT QUALITY

STARON® BENEFITS



**DEPENDABLE
PERFORMANCE**

- Innovation meets superior standard
- Offering higher performance to suit commercial environments
- Homogenous material which allows the surface to be easily restored



**KEEPING THE
SURFACE HYGIENIC**

- Designed with end-users in mind, your environment can be protected from the growth of bacteria or fungi
- Resistant to harsh chemicals
- Easy to maintain



**DIMENSIONAL
FLEXIBILITY**

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**INFINITE RANGE OF
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CASE STUDY

Healthcare

Hospitality

Retail

Restaurants

Workspace &
Education

Wall-cladding

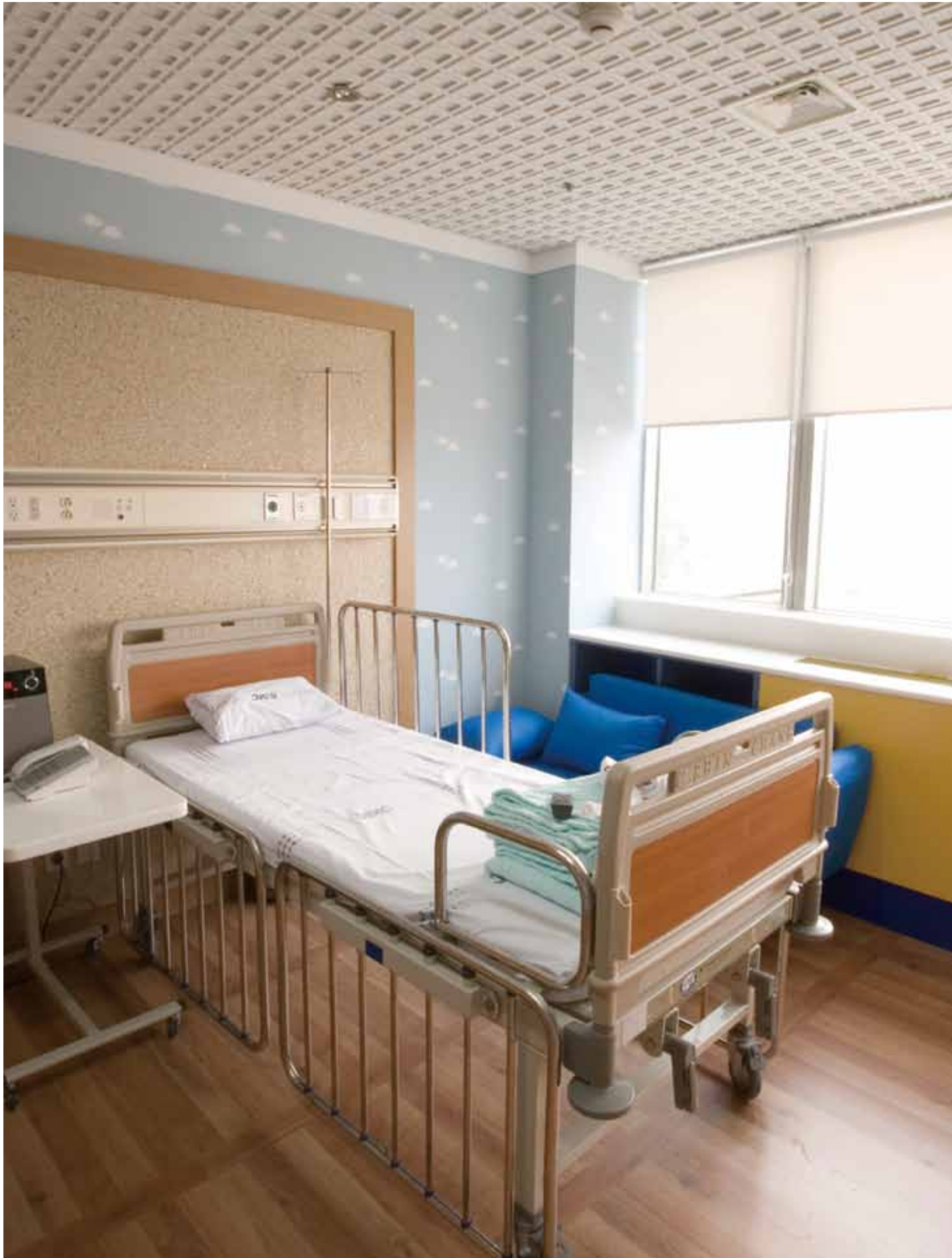
Kitchen & Bath

Creative Work



HEALTHCARE

- Non-porous surfacing material
- Provide the highest material standard by eliminating the growth of germs, fungi or mold
- Maintain a hygienic setting with a touch of modern sophistication



- 1

2

3
- 1 Samsung Medical Center

2 Operation Room, Taiwan

3 Reception, St. Joe's Healthcare, USA

- Hygienic**

 - Non-porous surfacing material eliminates the growth of germs, fungi, or mold
 - Seamless countertop installation provides another layer of assurance to prevent the growth of bacteria or fungi
- Dependable Standard**

 - Class a fire rating standard
 - Green-guard certified
- Enhancements**

 - Incorporate unique colors and designs to bring elevate the environment
 - Thermoforming allows 2D/3D designs



1, 2 Samsung Medical Center
3, 4 Wall, Wash Bowl, Woori Hospital, Seoul, Korea
5 Riverside Dental, Queensland, Australia [Designed by Anthony Connor, Ego Squared Design]

6, 7 Nurse's Room Geneva University Hospital, Geneva, Switzerland
8 Wall, Wash Bowl, Geneva University Hospital, Geneva, Switzerland
9, 10 Wash bowl, Creche Les Tilleuls Prilly, Switzerland



HOSPITALITY

- Bring unparalleled design & style options to accentuate the decor space
- Exceed beyond the original standard
- Deliver warm ambience



Innovative Designs

- Endless styling options
- Seamless surface material integration
- With over 140 color offerings, transform the area with a touch of vibrancy and sophistication

Exceed Beyond the Original Standard

- Easy to restore--keeping the surface completely new
- Resistant to hard impacts and scratches
- Staron® can be thermoformed to accomodate unique space offerings
- Resistant to high temperatures

Warm Ambience

- Make an unforgettable impression to prospective clients
- Accentuates the existing space

1	4	5	1, 2
2	3	6	Sheraton Grande Walkerhill Hotel
		7	3 Samsung Human Resource Development Institute
			4, 5, 6
			Hypnotique Spa, Milan, Italy
			(Designed by Simone Micheli)
			7 Furniture, Wall Covering, Hong Kong
			Pacific Palace, Hong Kong, China



1, 2, 3 Samsung Human Resource Development Institute
4, 5, 6, 7, 8 Town House, Milan, Italy (Designed by Simone Micheli)

9 Hotel Bar, Switzerland



RETAIL

- Establish unique identity
- Durable solution
- Thermoformable



Distinction

- Showcase the items in a chic fashion to appeal to greater number of clients
- Depending on the use of color, it allows products to stand out. Or if only displaying one product, it creates a sleek space to highlight the product.
- Inspiring designs can further enhance corporate identity

Durable Solution

- Due to homogeneous color offerings, merchandising area can be easily restored
- Withstands against scratches

Thermoformable

- Apply conceptual designs into real-applications
- Incorporate unique shapes and design

1	2	3	4	5
1, 2, 3 Showroom, Samsung Human Resource Development Institute				
4 Shoes Shop, Display Stand, Wall Deco, Stewart Weitzman Shoes Shop, Greece				
5 Signage, Gallery Cafe at Westfield, Chermide, Queensland, Australia (Designed by NOSUCHstudio Collective)				



1, 2 Kuho Fashion Showroom, Jeju, Korea
3 Samsung D'light Showroom
4 Heidi.com Showroom, London 100% Design 2013, UK (Designed by Zaha Hadid)

5 Beauty Salon, Luzern, Switzerland
6, 7, 8 Moochi Kiosk, Sydney, Australia (Designed by Mima Design Pty Ltd.)
9 Heidi.com Showroom, London 100% Design 2013, UK (Designed by Zaha Hadid)

RESTAURANTS



- Spice up the dining room area with assortment of 140 color offerings
- Designed with end-users in mind, Staron® is NSF 51 certified
- Dependable solution



Plateful of Colors

- From light to dark tone hues, Staron® can match with existing decor space and theme
- Deliver a modern approach to enhance the social and dining environment

Meeting the Highest Standard

- NSF 51 certified
- Class a fire rating certified
- SCS certified

Dependable Solution

- Non-porous surfacing material eliminates the growth of bacteria, fungi or mold
- Resistant to harsh chemicals
- Non-toxic material

1	4	6	1, 2, 3
2	5	7	Sushi Bar, Siprus
3			4, 5
			Samsung Human Resource Development Institute
			6 Lighting board, BIBIGO Restaurant, CJ Foodvill
			7 KFC, France



1, 2 Cafeteria, Raemian Gallery, Samsung C&T
3 Food Court, The University of Edinburgh, UK
4 Beluga Bar

5 Cafeteria, Samsung Electronics R5
6, 7 Sushi Bar, EURŌSTA & Yo Sushi, London, UK
8 Bar, Au Petit Grillon Corpataux



WORKSPACE & EDUCATION

- Innovative design meets inspiring ideas
- Dependable solution
- Seamless integration



Innovative Design Meets Inspiring Ideas

- Provide a pleasant working environment

Dependable Solution

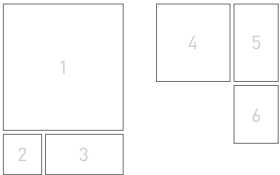
- Resistant to scratches
- Each work station or desk area will have exact matching color, providing uniform design and color tone

Seamless Integration

- Conference room tables can be easily seamed together without inconspicuous joints



- 1 Dongdaemun Design Plaza & Park
(Designed by Zaha Hadid)
- 2, 3 Schaffhauser Kantonalbank,
Thayngen, Switzerland
(Designed by Gehri Architects)
- 4 Sky Lounge, Dongdaemun Design
Plaza & Park
(Designed by Zaha Hadid)
- 5 Sunshine Hospital, Australia
- 6 DP9 Office, London, UK
(Designed by dMFK Architects)





1, 2 Meeting Area, Australia (Designed by Craig Yelland, Plus Architecture)
3 Information counter, Library & Learning Centre, New Vienna University of Economics, Austria (Designed by Zaha Hadid Architects)
4 Lobby, Meeting Area, Samsung Electronics R5

5 Lamml Architecture Office, Switzerland
6 Money Exchange, Eurostar, London, UK
7, 8 Hall, Seoul City Hall



WALL-CLADDING

—
Versatile solution

—
Make an impression with stylish interior design

—
Push beyond the boundaries



Versatile Solution

- Staron® is also available in (1/4") thickness for interior wall-cladding applications
- Resistant to scratches and harsh chemicals

Make an Impression with Stylish Interior Design

- Incorporate 2D/3D designs
- Panels may be thermoformed to accommodate curved walls or to wrap interior columns

Push Beyond the Boundaries

- Staron® solid-surface material can create unlimited design possibilities

- | | | | |
|---|---|---|---|
| 1 | 2 | 5 | 6 |
| | | | 7 |
| 3 | 4 | 8 | |
- 1 Library & Learning Centre, New Vienna University of Economics, Austria
(Designed by Zaha Hadid Architects)
2 Seats Cubes, Milestone Student Hall, Vienna, Austria
3 Dongdaemun Design Plaza & Park
(Designed by Zaha Hadid)
4 Seoul City Hall
5 Samsung Human Resource Development Institute
6 L'Archivoltto Staron Gallery, Milan, Italy
(Designed by Simone Micheli)
7 KUHO Fashion Shop
8 Deco Frame, Noon Square Myungdong



KITCHEN & BATH

—
Enhance the focal point of the social gathering area

—
Non-porous material

—
Timeless design



- Safe**
- Non-porous material that deters bacteria growth
 - Easy to maintain a clean space
- Solid**
- Strong material that is not affected by temperature changes
 - Easy surface restoration option that keeps the surface feeling “new”
- Diverse**
- Endless variety of styling forms
 - Smooth seamless surface detailing of styled forms
 - Beautiful color and patterns for assortment of design choices

1, 2 Kitchen Countertop, Australia (Designed by Lenka Jankovocova, Find & Design)

3 Town House, Milan, Italy (Designed by Simone Micheli)

4 Kitchen Countertop, Australia (Designed by Lenka Jankovocova, Find & Design)

5, 6, 7 Kitchen Countertop, Sink, Salone Internazionale del Mobile 2010, Milan, Italy



1 Wash Bowl, Countertop, Oesch Bad, Interlaken, Switzerland
2, 3 Wash Bow, Bathtub Dealim Bath
4 Bathtub, Wash Bowl, Sheraton Grande Walkerhill Hotel



5 HD Expo 2013, Las Vegas, USA
6 Wash Bowl, Switzerland (Designed by Stuber Team)
7 Shower Booth, Town House, Milan, Italy (Designed by Simone Micheli)



CREATIVE WORK

—
Color range that is not limited by the times

—
Design that is not limited in its form

—
Distinctive designs utilizing light



Color

- Infinite color range

Design

- CNC, thermoforming, seamless

Light

- Using light transmissions and its excellent processability, it is possible to express with a variety of texts and images

- | | | |
|---|---|---|
| 1 | 5 | 6 |
| 2 | 3 | 7 |
| | 4 | |
- 1, 2, 3, 4
HD Expo 2013, Las Vegas, USA
5 Milan Design Week 2013, Milan, Italy
[Designed by Mac Stopal]
6 Milan Design Week 2012, Milan, Italy
[Designed by Przemysław Mac Stopal]
7 Lounge Furniture, Milan Design Week 2013,
Milan, Italy
[Designed by GLAD Ltd.]



1



3



2



4



5

 2014 London Design Award
Silver Winner

 2014 London Design Award
Silver Winner

- 1 Zebra Sofa, HD Expo 2014, Las Vegas, USA
2 Armadillo Bathtub, 2014, London 100% Design
3 Hedgehog Sofa, 2014, London 100% Design

- 4 Humpback Whale Island Kitchen, 2014, London 100% Design
5 Owl Speaker, 2014, London 100% Design

TECHNICAL DATA

Sheet Dimension

Pattern	Thickness		Width		Length	
	mm	in	mm	in	mm	in
Solid, Sanded, Aspen	6	1/4	760	30	2,500	98
	12	1/2	760		3,680	145
Pebble, Metallic, Quarry, Mosaic, Cristal, Supreme, Tempest	12	1/2	760	30	3,680	145

Certification

Staron® , a brand recognized for top quality and technology

- NSF 51 for Food Zone Sanitation Certification
- GREENGUARD Eco-certification
- HB Eco-certification
- ASTM E84 Certification
- ISO 9001 System Certification
- ISO 14001 System Certification
- NAHB for Sinks and Lavatories Certification
- IAPMO for Sinks and Lavatories Certification
- CSA for Sinks and Lavatories Certification



Comparing Staron® to Other Products

Staron® is durable but also easy to work with. The differentiating advantages are its reliable quality.

Attributes	Staron® Solid Surface	Polyester Solid Surface	Engineered Stone	Granite	Stainless Steel
Ease of maintenance/Cleanability and repair	3	3	2	1	2
Does not support microbial growth	3	3	3	1	3
Non-porous smooth	3	3	3	1	3
Low flammability	3	2	3	3	3
Durable	3	3	3	3	3
Low VOC	3	3	3	3	3
Low smoke toxicity	3	1	3	3	3
Initial and life cycle cost effectiveness	3	3	3	1	2
Slip resistance-appropriate coefficient of friction	3	3	3	3	2
Ease of installation, demolition, replacement	3	3	1	1	2
Seamless appearance	3	3	1	1	3
Control of reflectivity	3	3	2	2	2
Option for color, pattern	3	3	3	2	2
Nontoxic, non-allergenic	3	3	3	3	3

Chemical Testing Results

We conducted chemical tests on various surface contaminations prone to exis. These contaminants were dropped onto the surface and covered with glass plates for 16 hours. Surfaces of these areas were then scrubbed with damp pads with detergent and tested for the results.

Contaninments

- Acetic acid (10%)

- Ammonia

- Amyl acetate

- Ball point pen

- Bleach (household type)

- B-4 body conditioner

- Carbon disulfide

- Citric acid (10%)

- Cigarette (nicotine and tar)

- Cooking oils

- Cupra ammonia

- Ethanol

- Ethyl ether

- Gasoline

- Grape juice

- Household soaps

- Hydrogen peroxide

- Ketchup

- Lipstick

- Methanol

- Methyl orange (1%)

- Mineral oil

- Nail polish

- N-hexane

- Pencil lead

- Permanent marker pen
- Soapless detergents

- Sodium hydroxide solution (5, 10, 25, 40%)

- Sodium sulfate

- Sugar (sucrose)

- Sulfuric acid (25, 33, 60%)

- Tetrahydrofuran

- Tomato juice

- Uric acid

- Washable inks

- Xylene

- Acetone

- Ammonium hydroxide (5, 28%)

- Amyl alcohol

- Benzene

- Blood

- Butyl alcohol

- Carbon tetrachloride

- Calcium thiocyanate (78%)

- Coffee

- Cottonseed oil

- Dishwashing liquid/powders

- Ethyl acetate

- Formaldehde

- Gentian violet

- Hair dyes
- Hydrochloric acid (20, 30, 37%)

- Iodine (1%)

- Lemon juice

- Mercurochrome (2%)

- Methyl ethyl ketone

- Methyl red (1%)

- Mustard

- Naphthalene

- Olive oil

- Perchloric acid

- Shoe polish

- Sodium bisulfate

- Soy sauce

- Sulfuric acid (25, 33, 60%)

- Tea

- Toluene

- Urea (6%)

- Vinegar

- Wine

- Zinc chloride



Results

Most pollutants can be easily removed from the surface with damp pad with neutral detergent.

Flame/Smoke Testing Results

Staron® was tested for fire/flammability which yielded the following results: 10 for flame spread, 10 for smoke density. Compared to other materials such as gypsum bards, laminates, and hardboards. Staron® has low flammability and safe for families and suitable. In addition, the smoke density is lower is lower than most materials and responds quickly to fire retardants.

- **Testing method**
 - ASTM E84 (Surface burning characteristics of building materials)
- **Staron® results**
 - Class A (Flame spread 10, Smoke density 10)

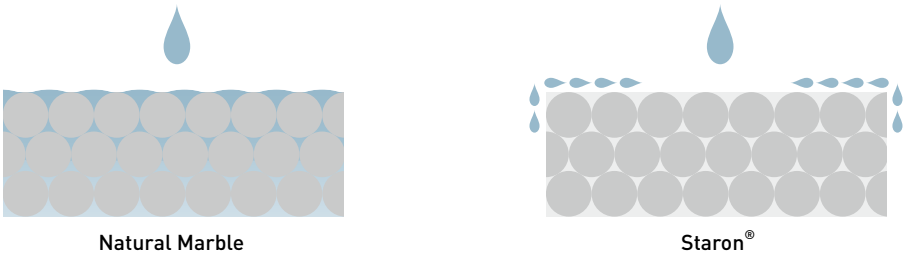
- **Other test results**

Item	Flame Spread	Smoke Density
Drywall (Gypsum board)	15	0
Wood particle voard	155	200
Staron®	10	10
Glass fiber panels	70	500+
Laminates, plastics	70	35
Hard board	150	400

Key Feature

Hygienically safe material

Unlike natural stones, Staron®'s non-porous surfaces prevent bacteria or fungi growth, and has low moisture absorption rate.



Bacterial Growth Testing Results

A common bacteria, pseudomonas aeruginosa, was applied to the surface of Staron® acrylic solid-surface and left untouched. After 4 weeks, the area was tested for bacterial growth; the results showed no bacterial proliferation.

- **Testing method**
 - ASTM G 22 (Determining resistance of plastics to bacteria)
 - Strains: Pseudomonas Aeruginosa (ATCC 13388)
 - Culture condition: 96.8 +/- 1.8°F (36 +/- 1°C), 90%RH, 21 days

- **Staron® results**
 - Zero traces of growth

Culture Time	0 Week	1 Week	2 Week	3Week
Result	0	0	0	0

Fungi Growth Testing Results

- **Testing method**
 - ASTM G 21 (Determining resistance of synthetic polymeric materials of fungi)
 - Strains: Aspergillus Niger (ATCC 9642)
Penicillium Pinophilum (ATCC 11797)
Chaetomium Globosum (ATCC 6205)
Gliocladium Virens (ATCC 9645)
Aureobasidium Pullulans (ATCC 15233)
 - Culture condition: 84.2 +/- 1.8°F (29 +/- 1°C), 90%RH, 21 days

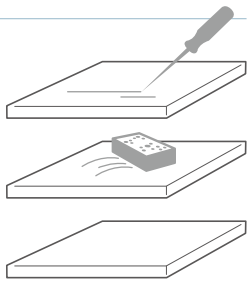
- **Staron® results**
 - Zero traces of growth

Culture Time	0 Week	1 Week	2 Week	3Week
Result	0	0	0	0

Technical Solution

Smart easy restoration material

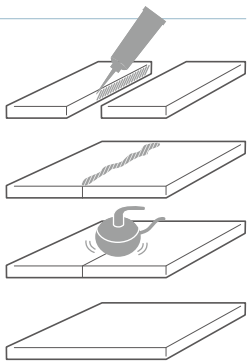
You can prolong the newness of your product over a long period of time with easy maintenance that will keep seamlessly.



Invisible joints

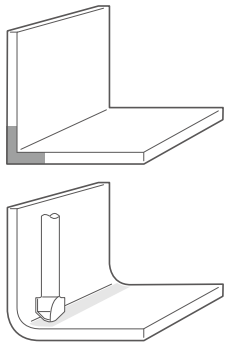
Use the adhesive Methacrylate to adhere the joints and sand the surface for visibly seamless completion of the construction.

When a color matched adhesive is used, seamless joints can be created with sanding.



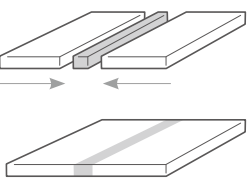
Easy cutting edges

Staron® is easy to handle even on difficult, narrow or curved edges where wood working tools can be used to cut edges.



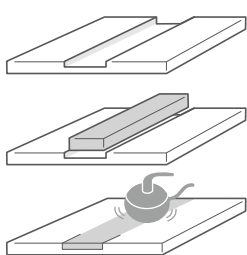
Various processing methods 1

Staron® solid surface allows you to seamlessly integrate multiple colors that can be bonded together to create a new design pattern.



Various processing methods 2

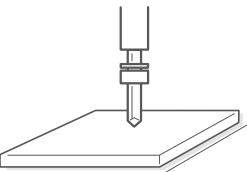
When adding letters or patterns, use an inlay technique by cutting out a similar shape on a board and place a different colored plate.



Various processing methods 3

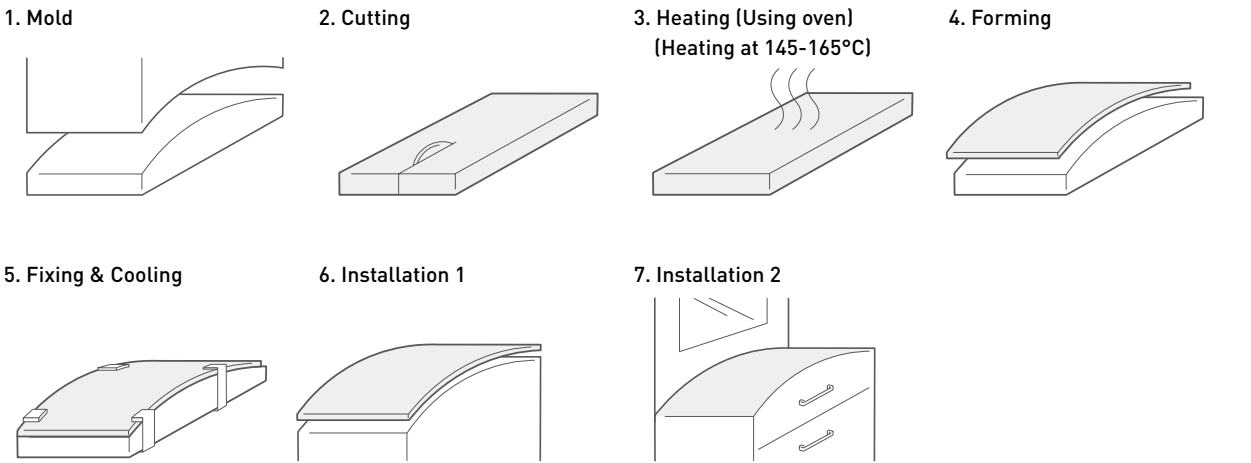
Staron® has a lower hardness than natural stone so you are able to use a wood working CNC to create precise grooves (Mohs hardness: 2-3).

You are able to create an interior that embodies what the designer wants.



CNC: Computer processed cost calculations of alterations

Thermoforming process

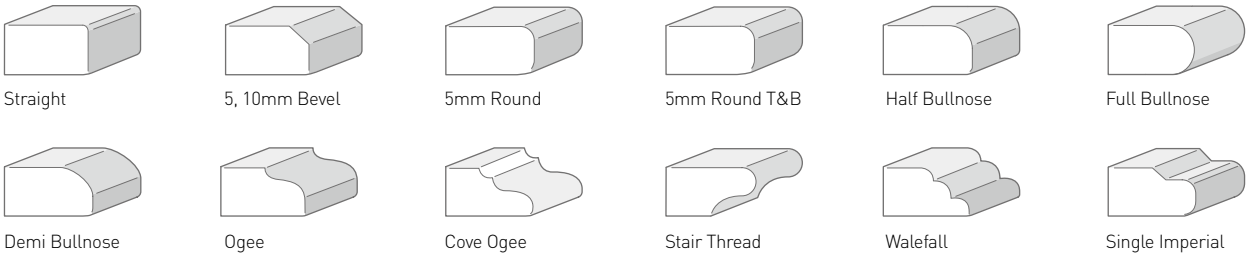


Recommended minimum inside radius value versus material thickness and color

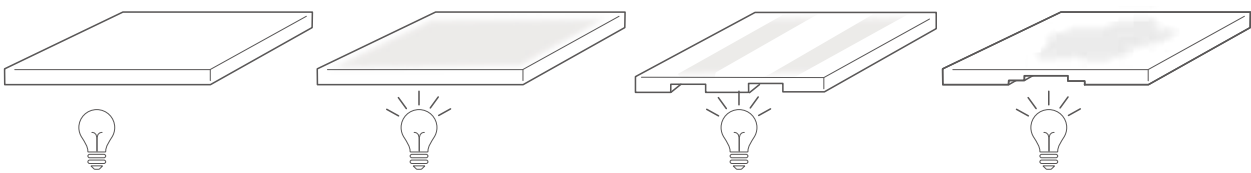
Staron® Solid Surfaces Thickness	Min. Inside Radius(R)	Staron® Solid Surfaces Color Group
1/4" (6mm)	1" (25mm) 4" (102mm)	Solid, Sanded Aspen, Pebble
1/2" (12mm)	3" (76mm) 5" (127mm) 8" (203mm)	Solid, Sanded Aspen, Pebble

* Quarry, Metallic and Tempest are not recommended for thermoforming

Various edge designs



Transparent



Performance Properties

Staron®

Properties	Typical Results	Test Procedure
Tensile strength	6,000 psi	ASTM D 638
Tensile modulus	600,000 psi	ASTM D 638
Flexural strength	10,000 psi	ASTM D 790
Flexural modulus	1,000,000 psi	ASTM D 790
Elongation	0.50%	ASTM D 638
Hardness	92 Rockwell "M" Scale 65 Barcol Impressor	ASTM D 785 ASTM D 2583
Thermal expansion	2.0 x 10 ⁻⁵ in/in F°	ASTM D 696
Gloss (60 Gardner)	Between 5–20	NEMA LD-3
Color stability	No change-200hrs	NEMA LD-3
Stain resistance	Pass Rating 41	ANSI Z 124
Abrasion resistance	Pass	ANSI Z 124
Boiling water surface resistance	No effect	NEMA LD-3
High temperature resistance	No effect	NEMA LD-3
IZOD impact resistance (notched)	0.28 ft.lbf/in	ASTM D 256
Ball drop 1/2" (12.3 mm) sheet	144" w/ 1/2 lb ball, No failure	NEMA LD-3
Fungi and bacterial resistance	No growth	ASTM G 21, G22
Specific gravity	1.72	ASTM D 792
Solid colors	1.69	
Patterened colors		
Water absorption	0.04%, (1/2", 24hrs) 0.11%, (1/8", 24hrs)	ASTM D 570
Flammability	Class A / Class 1	UBC 8-1
Flame spread	10	ASTM E 84
Smoke density	10	ASTM E 84
Radiant heat resistance	No visual effect	NEMA LD-3
Toxicity	84.4g (Solid Color) 81.8g (Patterned Color)	Pittsburgh Test Protocol (LC50 Test)

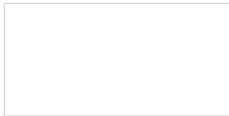
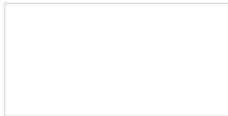
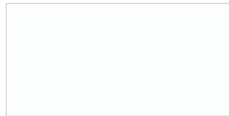
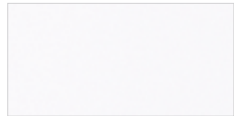
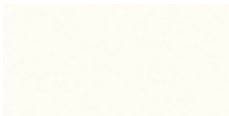
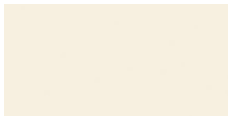
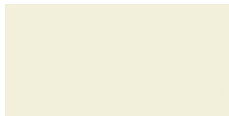
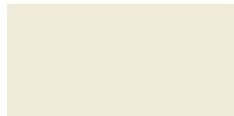
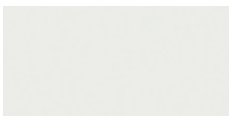
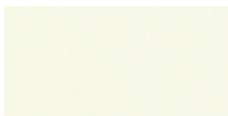
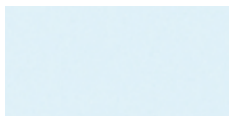
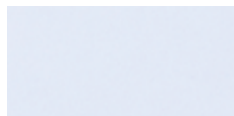
Tempest®

Properties	Typical Results	Test Procrdure
Tensile strength	3,500 psi	ASTM D 638
Tensile modulus	786,000 psi	ASTM D 638
Flexural strength	6,500 psi	ASTM D 790
Flexural modulus	950,000 psi	ASTM D 790
Elongation	0.5%	ASTM D 638
Hardness	88 Rockwell "M" Scale 54 Barcol Impressor	ASTM D 785 ASTM D 2583
Thermal expansion	2.3 x 10 ⁻⁵ in/in F° 3.6 x 10 ⁻⁵ m/m °C	ASTM D 696
Gloss (60 Gardner)	Between 10–75	NEMA LD-3
Color stability	Pass	NEMA LD-3
Stain resistance	Pass	ANSI Z 124
Cleanability & Wear	Pass	ANSI Z 124
Boiling water surface resistance	No effect	NEMA LD-3
High temperature resistance	No effect	NEMA LD-3
IZOD impact resistance (notched)	0.28 ft.lbf/in	ASTM D 256
Ball drop 1/2" (12.3 mm) sheet	1/2 lb ball No failure, 93+	NEMA LD-3
Fungi and bacterial resistance	No growth	ASTM G 21, G22
Specific gravity	1.6	ASTM D 792
Water absorption	0.04%, (1/2", 24hrs)	ASTM D 570
Flammability	Class A / Class 1	ASTM E 84 / UBC 8-1
Food equipment materials	Approved	NSF/ANSI 51 (Food Zone)

* The information contained herein is provided by LOTTE ADVANCED MATERIALS Co.Ltd. and its subsidiaries and affiliates (collectively referred to as "LOTTE ADVANCED MATERIALS Co.Ltd.") for information purposes only and should be used by individuals with technical experience and knowledge in the area. LOTTE ADVANCED MATERIALS Co.Ltd. does not make any representation or warranties of the usefulness or expected result of the information, and does not assume any responsibility whatsoever related to the use of the information. Exclusion of the implied warranties may not apply in certain jurisdictions.

Staron® Colors Chart

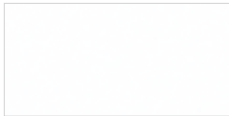
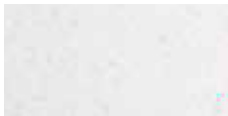
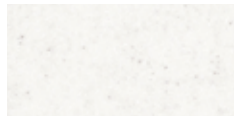
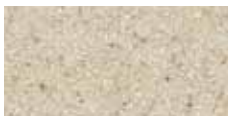
Solid

			
Quasar White SQ019	Pure White SP016	Bright White BW010	Dazzling White SD001
			
Pearl SP011	Natural SV041	Tusk ST015	Ivory SI040
			
Fog SF020	Blonde SB043	Cool Mint SC063	Powder Blue SP063
			
Mist SM022	Placid SP062	Bliss SB022	Serene SS023
			
Sunflower(N) SS042	California Poppy(N) SC052	Univers(N) SU053	Eggplant SV037
			
Iris SI056	Steel ST023	Onyx ON095	



Printed representation of colors may vary from actual samples:
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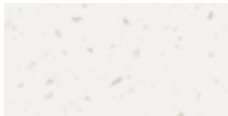
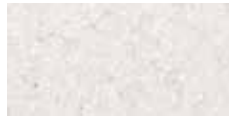
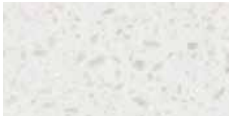
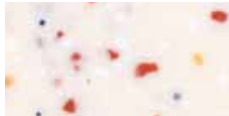
Sanded

			
Sanded Icicle SI414	Sanded Birch SB412	Sanded Stratus SS418	Sanded Linen SL443
			
Sanded Cornhusk SC443	Sanded Dover SD413	Sanded White Pepper WP410	Sanded Cream SM421
			
Sanded Sahara SS440	Sanded Gold Dust SG441	Sanded Cornmeal SC433	Sanded Papyrus SP474
			
Sanded Oatmeal SO446	Sanded Vermillion SV430	Sanded Grey SG420	Sanded Tundra ST482
			
Sanded Mocha SM453	Sanded Clay SC475	Sanded Heron SH428	Sanded Dark Nebula DN421
			
Sanded Onyx SO423			

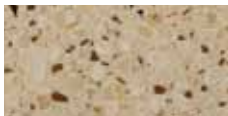
Metallic

			
Metallic Yukon EY510	Metallic Beach EB545	Metallic Satingold ES558	Metallic Sleeksilver ES581
			
Metallic Galaxy EG595	Metallic Cosmos EC596		

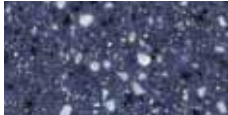
Aspen

			
Aspen Glacier AG612	Aspen Glow AG636	Aspen Gold Rush AG614	Aspen Snow AS610
			
Aspen Lily AL645	Aspen Stucco AS644	Aspen Fiesta AF611	Aspen Grey AG620
			
Aspen Pepper AP640	Aspen Lava AL650	Aspen Sky AS670	Aspen Brown AB632
			
Aspen Mine AM633			

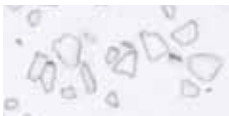
Quarry

			
Quarry Rocksalt TR305	Quarry Oyster TQ310	Quarry Esker QE240	Quarry Bluff QB244
			
Quarry Mesa QM242	Quarry Stoneware BS500	Earthen Bark QL257	Earthen Stratum QL287
			
Quarry Starred QS287	Quarry Minette QM289		

Pebble

			
Pebble Ice PI811	Pebble Swan PS813	Pebble Frost PF812	Pebble Coral PC817
			
Pebble Tea Rose PT845	Pebble Saratoga PS820	Pebble Moon PM832	Pebble Lagoon PL814
			
Pebble Chiffon PC842	Pebble Gold PG840	Pebble Fresco PF844	Pebble Caper PC821
			
Pebble Seastar PS843	Pebble Grey PG810	Pebble Spinel PS854	Pebble Aqua PA860
			
Pebble Copper PC851	Pebble Blue PB870	Pebble Terrain PT857	Pebble Chocolate PC855
			
Pebble Ebony PE814			

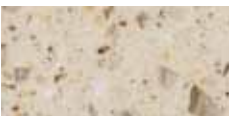
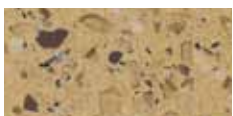
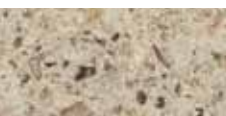
Mosaic

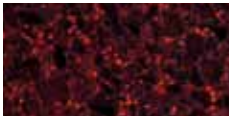
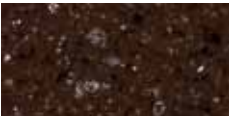
		
Mosaic Dalmatian QD212	Mosaic Nimbus QN287	Mosaic Blackbean QB299

Crystal

	
Crystal Pacific NP932	Crystal Sundance NS955

Tempest® Colors Chart

			
Polar FP111	Pinnacle FP112	Meteor FM111	Peak FP100
			
Confection FC116	Horizon FH114	Twilight FT113	Shell FS115
			
Silvercloud FS122	Prairie FP142	Genesis FG174	Rattan FR124
			
Shallot FS157	Cinnamon FC153	Sonoma FS143	Glimmer FG144
			
Caraway FC155	Whippoorwill FW145	Bronzestar FB154	Milestone FM185
			
Gold Leaf FG196	Dazzle FD191	Spearmint FS164	Paprika FP136

			
Spice FS137	Coffee Bean FC158	Adamantine FA159	Blaze FB147
			
Copperplate FC156	Radiance (Shimmer) FR148	Caviar FC188	Zenith FZ184
			
Starfire FS198	Igneous FI187	Supernova FS192	

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Global Network

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