

## Technical Properties & Specification

staron®

### Technical Properties

#### Care & Maintenance

Staron is a homogeneous and solid mineral-filled acrylic polymer material that is easy to maintain.

Simple routine maintenance is required to keep it looking new and fresh.

#### Routine Cleaning of Countertops and Sinks

Use soap and water with soap or an ammonia-based cleanser (such as glass cleanser). Wipe away water stains with a damp cloth and sponge and dry with a towel.

#### Removing Difficult Stains:

Dull Finishes: Use an abrasive cleanser and a green Scotch-Brite(r) pad. Rub in a circular motion.

Semi-Gloss Surfaces: Use Soft Scrub(r) diluted bleach and a white Scotch-Brite(r) pad. Rub in a circular motion.

High-Gloss Surfaces: Follow the procedure for semi-gloss surfaces, but use a sponge instead of a Scotch-Brite(r) pad. If the area is dull in contrast with the surrounding surface, use a white polishing compound with a sponge to get a higher gloss.

#### Disinfecting Surfaces and Sinks

Occasionally wipe sinks and bowls with diluted household bleach (1/1 water/bleach solution) to disinfect.

#### Removing Cuts and Scratches

Dull finishes: Sand with 180-grit (120 micron) or 220-grit (60 micron) fine sandpaper until the cut and scratch is removed; restore finish with an abrasive cleanser and a green Scotch-Brite(r) pad to the same finish as the adjacent surface.

Semi-Gloss Finishes: Sand with 400-grit (30 micron) sandpaper; restore finish with a nonabrasive cleanser and a white Scotch-Brite(r) pad.

High-gloss finishes: Sand with 400-grit (30 micron) or 600-grit (20 micron) sandpaper; buff with polishing pad at a low speed (1500 - 2000 rpm) polisher equipped with a wool pad; finish with a wax.

All of the above sanding and polishing should be done in a circular motion.

#### Preventing damage

In most cases, Staron can be easily repaired. However, follow these guidelines to prevent any permanent damage.

#### Heat damage

Even though Staron has an excellent heat resistant property compared with other ordinary countertops, placing hot pans, as well as some heat-generating appliances such as frying pans or crockpots can damage a Staron surface. Always use a hot pad or a trivet with rubber feet to protect Staron. Avoid long-term exposure of Staron to temperatures over 80°C (170°F)

## Other Damage

Avoid exposing Staron to strong chemicals such as paint removers and oven cleaners. Surfaces exposed to these chemicals should be promptly flushed with water. Contact over a long period of time will cause spots and require extensive sanding.

- Do not cut directly on a Staron surface.
- Use a cutting board.
- Run cold water when pouring boiling water into sinks.
- Remove nail polish with a non-acetone-based nail polish remover and flush with water.

All the above sanding and polishing should be done in a circular motion

## RESIDENTIAL 10-YEAR LIMITED WARRANTY BY SAMSUNG/CHEIL INDUSTRIES INC.

Permanently installed **STARON** surfaces of the original owner is warranted by **SAMSUNG/CHEIL INDUSTRIES INC.** (hereunder '**SAMSUNG**') in the United States and Canada. **STARON** must be fabricated, installed, used and maintained in accordance with instructions provided by **SAMSUNG**. **SAMSUNG** at its option will repair or replace, without charge, such products if it falls due to any manufacturing defect during the first ten (10) years after the date of initial installation except for damage caused by physical or chemical abuse, damage from excessive heat, or act of nature. This includes necessary real cost charges needed to repair or replace the products. All of instructions are available from **your\_dealer** and fabrication/installation source or by contacting **SAMSUNG**.

This warranty is transferable within 10-year period since the first installation only when the new owner writes to **SAMSUNG** to register the installation under a new owner's name.

This Warranty does not cover:

1. Minor conditions such as stains, scratches, water spots and burns which, due to the unique properties of **STARON**, may be corrected by techniques specified in Care & Maintenance instructions.
2. Failure not to comply with **SAMSUNG's** instructions including fabrication, installation, care, aintenance,etc.
3. Any products moved from their original place of installation.
4. Failure or dissatisfaction with appearance of joints or seams, or of any adhesive, caulk or other accessory items.

**SAMSUNG's** obligation hereunder is limited solely to the repair or replacement including necessary reasonable real cost charges of the **STARON** products purchased hereunder. No implied or expressed warranty merchantability or fitness for a particular use or any other warranty except those specially stated in this warranty or required by law is granted. Except for the remedies described in this warranty, **SAMSUNG** has no liability for any loss or any damages including direct, consequential or incidental damages, arising out of the use or inability to use **STARON** products.

## Chemical Resistance

### Test method

- \* Apply 3 drops of each chemical reagent on the surface of Staron.
- \* Expose the sample for 16 hours; covered with glass plate and uncovered.
- \* Check the surface and scrub the surface with a wet Scotch-Brite(r) pad and bleaching cleanser

### Test results

Since surface damage varies with chemical reagent and exposure time, it is a good practice to install Staron after testing to confirm the suitability of Staron for application.

The following chemical reagent residue can be removed with a wet Scotch-Brite pad and bleaching cleanser. Glossy surfaces may increase stain resistance.

Acetic acid (10%)	Acetone
Ammonia	Ammonium hydroxide (5.28%)
Amyl acetate	Amyl alcohol
Ball point pen	Benzene
Bleach (Household type)	Blood
B-4 body conditioner	Butyl alcohol
Carbon disulfide	Carbon Tetrachloride (78%)
Citric acid (10%)	Calcium thiocyanate (78%)
Cigarette (nicotine and tar)	Coffee
Cooking oils	Cottonseed oil
Cupra ammonia	Dishwashing liquid/powders
Ethanol	Ethyl acetate
Ethyl ether	Formaldehyde
Gasoline	Gentian violet
Grape juice	Hair dyes
Household soaps	Hydrochloric acid (20, 30, 37%)
Hydrogen peroxide	Iodine (1%)
Ketchup	Lemon juice
Lipstick	Mercurochrome (2%)
Methanol	Methyl ethyl ketone
Methyl orange (1%)	Methyl red (1%)
Mineral oil	Mustard
Nail polish	Naphthalene
N-hexane	Olive oil
Pencil lead	Perchloric acid
Permanent marker pen	Shoe polish
Soapless detergents	Sodium bisulfate
Sodium hydroxide solution (5, 10, 25, 40%)	Soy sauce
Sodium sulfate	Sulfuric acid (25, 33, 60%)
Sugar (sucrose)	Tea
Tetrahydrofuran	Toluene
Tomato juice	Urea (6%)
Uric acid	Vinegar
Washable inks	Wine
Xylene	Zinc Chloride

The following chemical reagents may seriously damage the surface. Sanding could be required to completely remove the damage. Avoid frequent and lengthy exposure.

Acetic acid (90, 98%)	Acid drain cleansers
Chlorobenzene	Chloroform (100%)
Chromic trioxide acid	Cresol
Dioxane	Ethyl acetate
Equalizing mix (50/50)	Film developer
Formic acid (50, 90%)	Furfural
Glacial acetic acid	Hydrofluoric acid (48%)
Luralite mix (50/50)	

Methylene chloride-based products such as paint removers, brush cleansers and some metal cleansers.

Nitric acid (25, 30, 70%)	Phenol (40, 85%)
Phosphoric acid (75, 90%)	Sulfuric acid (77, 96%)
Trichloroacetic acid (10, 50%)	

## Fungal Resistance (Visual rating of fungus growth)

### Test 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: 29 ± 1°C (84.2 ± 1.8°F), 90%RH, 21 days
- Limitation

Observed Growth on Specimen	Rating
None	0
Traces of growth (Less than 10%)	1
Light Growth (10-30%)	2
Medium Growth (30-60%)	3
Heavy Growth (60%-Complete coverage)	4

### Test result

Culture Time	0 week	1 week	2 week	3 week
Result	0	0	0	0

## Bacterial Resistance (Visual rating of bacterial growth)

### Test method

- ASTM G 22 (Determining Resistance of Plastics to Bacteria)
- Strains: Pseudomonas Aeruginosa (ATCC 13388)
- Culture condition: 36 ± 1°C (96.8 ± 1.8°F), 90%RH, 21 days
- Limitation

Observed Growth on Specimen	Rating
None	0
Traces of growth (Less than 10%)	1
Light Growth (10-30%)	2
Medium Growth (30-60%)	3
Heavy Growth (60%-Complete coverage)	4

### Test result

Culture Time	0 week	1 week	2 week	3 week
Result	0	0	0	0

## Performance Properties of Staron

PROPERTIES	TYPICAL RESULTS	TEST PROCEDURE
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"(13 mm) sheet	>125" w/ 1/2 lb ball	NEMA LD-3
Fungi and Bacterial resistance	No growth	ASTM G 21, G22
Specific gravity	1.731.68	ASTM D 792
Solid colors		
Particulated colors		
Water absorption	0.04%, 24hrs	ASTM D 570
Flammability	Class 1105	UBC 8-1ASTM E 84ASTM E 84
Flame spread		
Smoke density		
Radiant heat resistance	No visual effect	ANSI Z 124
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	2.5%	ASTM D 638
Hardness	99 Rockwell "M" Scale	ASTM D 785ASTM D 2583
	Impressor	
Thermal Expansion	2.3 x 10 <sup>-5</sup> in/in/°μ	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

\*\* For more information on Staron, please [contact your regional Staron Distributor.](#)