

SM QUARTZ®

TECHNICAL CHARACTERISTICS OF THE SLABS

PRODUCT DESCRIPTION

SM QUARTZ® is manufactured in slabs using vibro-compression technology under vacuum and with a heat activated catalyst. This system is an ideal process to manufacture engineered stones creating a high level of hardness, usually 6-7 on the Mohs scale. This category of engineered stone includes all products manufactured with siliceous stones, e.g. quartz sands, quartzites, ground quartz. Other aggregates, such as glass, feldspar and some granites, are usually added.

The production process starts by first dry-mixing the aggregates with the color pigments. The resin and the catalyst additives are then added. If the material to be manufactured is bi-colored or tri-colored, each mixture is first separately dry-mixed and then subsequently blended together. The mixture (or the blend of mixtures) is then put in a rubber mold and vibro-compacted under vacuum. The catalysis takes place in an oven at 120°C (250°F). The slab remains in the oven approximately 30 minutes. It is then taken out of the mold and placed in a “cooling tower”, where the temperature is gradually brought to 40°C (105°F). At this point the slabs are stacked on A-frames to wait for further processing. The slabs are later sent to the final processing line, where both sides are ground and calibrated with diamond abrasives. One face is brought to the desired finish (polished, honed or brushed). Once finished, a worker visually inspects every slab, checking the quality and selecting into A or B grade.

RAW MATERIALS

Quartz, the main component of SM QUARTZ®, is a very hard mineral, reaching level 7 on the Mohs scale of hardness. No acids affect quartz except for hydrofluoric acid. These characteristics, combined with the vibro-compression technology used to manufacture the product, make quartz based agglomerated stone very resistant to scratching, staining and etching: it is the ideal material for kitchen counters and bath vanity tops.

The binder is a specially designed polyester resin and represents about 7-8% of the total ingredients. It is added as a liquid to the aggregate and pigment mixture and hardens through a catalysis process with heat.

The coloration is achieved by adding a small percentage of both organic and inorganic colored pigments with excellent light stability.

In some products other raw materials may be added, such as:

- granite
- glass
- mirror
- feldspar
- mother of pearl

STANDARD SIZES AND WEIGHT

3050 x 1400 x 12 mm (120" x 55" x ½" nominal)	approx. 130 Kg (290 lbs)
3050 x 1400 x 20 mm (120" x 55" x ¾" nominal)	approx. 210 Kg (465 lbs)
3050 x 1400 x 30 mm (120" x 55" x 1-¼" nominal)	approx. 310 Kg (685 lbs)
3200 x 1550 x 12 mm (126" x 61" x ½" nominal)	approx. 150 Kg (330 lbs)
3200 x 1550 x 20 mm (126" x 61" x ¾" nominal)	approx. 240 Kg (530 lbs)
3200 x 1550 x 30 mm (126" x 61" x 1-¼" nominal)	approx. 360 Kg (795 lbs)

RECOMMENDED USE

SM QUARTZ® is a high performing surfacing material, but not indestructible and may be damaged due to improper maintenance and misuse.

Do:

- install countertops indoors, away from direct sunlight, in order to avoid color variation from direct exposure to the sun;
- protect the countertop surface from thermal shock and/or excessive and prolonged heat, which may alter the aesthetic characteristics of the product and, in the worse case scenario, cause cracking. Make sure the surface does not overheat with hot pans or small cooking appliances and always use trivets;
- protect the countertop from scratching by using chopping boards when cutting and preparing food. Avoid using abrasive sponges and detergents that might damage the quartz surface. Remember, a quartz surface has a very high resistance to scratching, but it is not scratch proof;
- prevent heavy items from falling on the surface which may cause breakage or chips and, if the material contains glass or mirror, damage to the glass, mirror or mother of pearl;

- for quartz surfaces with mother of pearl chips: do not allow acidic liquids (e.g. vinegar, lemon juice or acidic detergents) to remain on the mother of pearl. Since these chips are organic, they can be easily corroded or etched.

Avoid exposing SM QUARTZ® surface to:

- highly alkaline products, such as bleach, caustic soda, etc.;
- products containing solvents (e.g. acetone), alcohol, paint removers;
- stain removers not designed for quartz surfaces;
- abrasive and micro-abrasive products, either in powder or cream;
- products leaving films or coatings on the surface;
- highly abrasive sponges.

CERTIFICATIONS

All SM QUARTZ® materials have achieved both “Greenguard Certification” (certificate no. 29306-410) and “Greenguard Gold Certification” (certificate no. 29306-420) issued by the Greenguard Environment Institute.

This certification was issued after the level of VOC (Volatile Organic Compounds) indoor emissions was tested and found to be below the strict standards set up by GREENGUARD.

SM QUARTZ® slabs are certified by NSF (National Sanitation Foundation) according to the NSF/ANSI 51 standard. This means that it is safe for food to come in contact with our quartz.

PHYSICAL-MECHANICAL CHARACTERISTICS

The physical-mechanical characteristics of the material have been determined according to the standard EN 14617, lab tests carried out on untreated surface.

CHARACTERISTIC	STANDARD	S.M.	VALUE
Apparent density	EN 14617-1	Kg/m ³	2000 - 2500
Water absorption	EN 14617-1	%	≤ 0,10
Flexural strength	EN 14617-2	MPa	28 - 100
Abrasion resistance	EN 14617-4	mm	25 - 33

STAIN RESISTANCE*

Stain resistance of the products has been tested according to UNI EN 12720 Standard. The test has been carried out on polished non-treaded surface. Stain resistance has been evaluated by leaving a staining substance on the surface, respectively, 2 and 16 hours: the surface has then been cleaned with Top Cleaner by Faber.

Staining substance	2 h	16 h
Ace flavoured bleach	Non removable stain	Non removable stain
Cirio vinegar	No visible change	No visible change
Acetone	Non removable stain	Non removable stain
Bio Presto detergent	No visible change	Light haze
Frost Premium beer	No visible change	No visible change
Hot coffee	No visible change	No visible change
Cif Crema cleanser	Light haze	Non removable stain
Sodium chlorid 10% solution	Light haze	Non removable stain
Coca Cola	No visible change	No visible change
Deteralcool Noi Voi	Light haze	Light haze
Dixan Gel dish detergent with vinegar	No visible change	No visible change
Finish Power Gel	Non removable stain	Non removable stain
Fornet oven cleaner	Light haze	Light haze
Milk	No visible change	No visible change
Lysoform WC Gel	No visible change	No visible change
Mastro Lindo	Light haze	Light haze
Olive oil	No visible change	No visible change
Black marker	Non removable stain	Non removable stain
Sai flavoured ammonia	Light haze	Light haze
Smac Brilla Acciaio cooker cleanser	No visible change	No visible change
Spic & Span Marsiglia detergent	No visible change	Light haze
Concentrated lemon juice	No visible change	No visible change
Svelto Brillantante rinse aid	No visible change	No visible change
Svelto Piatti Gel Attivo dish cleaner	No visible change	No visible change
Hot tea	No visible change	No visible change
Tomato Ketchup	No visible change	No visible change
Viakal Multiazione descaler	No visible change	No visible change
Red wine	No visible change	No visible change

* Test result not applicable to quartz surfaces containing mother of pearl chips