QUARTZSTONE®

QUARTZSTONE® PHYSICAL AND MECHANICAL PROPERTIES				
TESTS CARRIED OUT BY "CENTRO CERAMICO" BOLOGNA				
Quartzstone® is a highly compact low absorption material made out of natural aggregates, silica sand and resin. It is easy to clean and does not absorb liquids, odours or cooking fats.Quartzstone® is resistant to various chemical agents (see attached technical sheet) however contact with some products may damage the polished surface. Amongst these products are sulphuric acid concentrate, acetone, undiluted bleaching products and a combination of strong solvents (e.g. paint stripping products). Do not use hydrofluoric acid, caustic soda or chlorinated solvents (chloroform).				
CHARACTERISTCS	**UNIT OF MEASUREMENT**	**VALUE**	**THICKNESS**	**STANDARDS EMPLOYED**
APPARENT VOLUME MASS	Kg/m³	2410.0	15-30 mm	UNI 10444
WATER ABSORPTION	% MASS	0,02		UNI 10444
BENDING STRENGTH	N/mm²	58.9		UNI 10443
FLEXURAL STRENGTH	N	16500		EN 100 (92)
COMPRESSION STRENGTH	N/mm²	177		=
DEEP ABRASIVE STRENGTH	Average volume of material removed,Vm(mm3)	166		UNI 10532
SURFACE HARDNESS	MOHS	6		UNI EN 101
LINEAR THERMAL EXPANSION COEFFICIENCY	10^{-6} °c^{-1}	31.5		UNI EN 103
DIMENSIONAL STABILITY	-	CLASS A		METODO MAPEI
SLIP RESISTANCE European Test 1	R9-R13	CLASS R9		DIN 51130 (honed face)
SLIP RESISTANCE European Test 2				B.C.R (Tortus floor friction tester)
Rubber on dry surface	0,40<=u<=0.74	0,88		
Rubber on wet surface	0,40<=u<=0.74	0,41		
Leather on dry surface	u>0,40	0,45		
IMPACT STRENGTH	JOULE	5.8		UNI 10442
FIRE RESISTANCE	CLASS	1		CSE RF 2/75A - CSE RF 3/77
FROST RESISTANCE	DAMAGE SUFFERED	NONE		UNI EN 202
CHEMICAL RESISTANCE :	EFFECT	RESISTENT		UNI EN 122
Domestic chemical products				
Swimming pool additives				
Acids				
Basi		SLIGHT VARIATION		
THERMAL SHOCK RESISTANCE	DAMAGE SUFFERED	NONE		UNI EN 104
COLOUR RESISTANCE TO LIGHT	NOTABLE VARIATION OF COLOUR	SLIGHT		DIN 51094

QUALITY SYSTEM CERTIFICATE UNI ISO 9002;1994 (ISO 9002;1994) No.CERT-04923-99-AQ-BRI-SINCERT
Valid for manufacture of quartz,granite & marble compound stone,bound with resins or cement

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DETERMINATION OF CHEMICAL RESISTANCE TEST
In accordance with UNI EN 122

Solution used	Resistance Class				
Staining agent					
Blue methylene	2	2	2	2	2
Potassium permanganate	3	3	3	3	3
Swimming pool additive					
Sodium hypochlorite	AA	AA	AA	AA	AA
Copper sulphate	AA	AA	AA	AA	AA
Acid					
Hydrochloric	AA	AA	AA	AA	AA
Citric	AA	AA	AA	AA	AA
Base					
Potassium hydroxide	A	A	A	A	A

Key

Staining Agent

Class 1	Stain removed with water
Class 2	Stain removed with water and cleaning agent
Class 3	Stain is not removed

Domestic use chemical products, swimming pool additives, acid or basic

Class AA	Resistant
Class A	More resistant that AA, less resistant than B
Class B	More resistant that A, less resistant than C
Class C	More resistant than B, less resistant that C
Class D	Not resistant

Domestic use chemical products, swimming pool additives, acid or alkaline

Class AA	No visible effect
Class A	Slight variation in appearance
Class B	Strong variation in appearance
Class C	Partial disappearance of the original surface
Class D	Total disappearance of the original surface

Test carried out on 5 light coloured matt finish tiles

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DETERMINATION OF STAIN RESISTANCE TEST
In accordance with BS 6431 Part 1
Procedure CCB T 040193/R.S.UGL

Staining Agent	Stay Time	Cleaning Agents/Method	Visual Examination Class
Dark wine/vinegar	24 hours	I	6
Coffee	24 hours	I	6
Extra virgin olive oil	24 hours	I	6
Coca Cola	24 hours	I	6
Cigarette burning ash	10 minutes	V (**)	6
Methylene blue solution 10g/l	24 hours	VI a (**)	6
Potassium permanganate solution 10g/l	24 hours	IV (**)	6
Blue ink (ink pad)	24 hours	IV (*)	6
Indelible red ink	24 hours	I	6

Key

Cleaning Agents

I Hot running water (T= 60 Deg)
II Weak commercial non abrasive detergent with Ph 6.5-7.5
III Strong commercial non abrasive detergent with approx.Ph 9-10
IV Strong commercial non abrasive detergent with approx.Ph 3-4
V Strong commercial non abrasive detergent
VI Suitable solvents
- **VI a** Hydrochloric (3% see UNI EN 122 -3.4)
- **VI b** Potassium hydroxide (200 g/l,see UNI EN 106 3.4)
- **VI c** Sodium hypochlorite (20 g/l, see UNI EN 106 3.2)
- **VI d** Trichloro-ethylene etc.

Cleaning Method

(*) Manual cleaning with soft sponge
(**) Mechanical cleaning
(***) Immersion of the sample into cleaning agents

Result Classification

0 Deterioration or alteration of the working surface that can not be restored by cleaning
1 Persistent Stain
2 Partial stain persistance I.e.the stain persists but is weakened
3 Persistance of well visible halos
4 Persistance of hardly visible halos
5 Permanance pf pinholes on a clean background
6 Surface completely restored in its original appearance

Test carried out on light coloured matt finish tile

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