Acrylic Sheet Material Composition: Solid Surfaces Sheets

- Ingredient: Acrylic Polymer
- Ingredient Sequence Number: 01
- Percent: 40 – 45
- CAS Number: 9011 - 14 - 17
- Ingredient: Hydrated Alumina, Aluminum Hydroxide, Aluminum Trihydroxide
- Ingredient Sequence Number: 02
- Percent: 55 – 60
- NIOSH (RTECS) Number: BD094000
- CAS Number: 21645 - 51 - 2

Color Matches Standard: Less than or equal to 1.0 Delta E.

For Particulated patterns: Particulated patterns are a function of pattern and no overall qualitative number can be used thus acceptability is subjective and dependent upon pattern:

- Ripples (another visual defect from sanding) None (0) (Ripples on darker color can be found out from low angle 22.5°, while light color only can be felt by light touching the sheet with hand).
- Dirt and Contamination None (0).
- Particle Homogeneous, no banding, clumping or voids in distribution.

Acrylic Sheet Dimensions

THICKNESS INCH (mm)	WIDTH INCH (mm)	LENGTH INCH (mm)	WEIGHT LBS (kg)
1/2" (12 mm)	**30" (760 mm)**	**145" (3,680 mm)**	**116.4 lbs (52.8 kg)**

Performance Properties: Solid Surfaces Sheets

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	0.5%	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 temperature resistance (notched)	0.28 ft. lbf/in	ASTM D 256
Ball drop 1/2" sheet	144" w/ 1/2 lb ball, No failure	NEMA LD-3
Fungi and Bacterial resistance	No growth	ASTM G 21, G22
Solid colors Patterned colors	1.72 1.69	ASTM D 792
Water absorption	0.04%, (1/2", 24hrs) 0.11%, (1/8", 24hrs)	ASTM D 570
Flammability Flame spread Smoke density	Class A / Class 1 10 10	UBC 8-1 ASTM E 84 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)

Toxicity Test Result

TEST SAMPLE	LC_{50} Value
Solid Color	**84.4g**
Patterned Color	**81.8g**

Thermal decomposition of Solid Surfaces was measured at a temperature greater than 300°C (575°F), which is most likely in case of fire.

Toxicological Information

METHYL METHACRYLATE
TLV-TWA = 100 ppm = 410 mg/m^3; ACGIH (1991-2)
LD50/oral/rat = 7872 mg/kg; RTECS, 47796
Methyl methacrylate can be present on the cutting tool face at a concentration exceeding the TLV of 100 ppm. However, it dissipates to very low levels with good ventilation.

Emission Analysis for TVOC

- Chamber conditions for test period

PARAMETER	SYMBOL	UNITS	VALUE
Product exposed area	Ac	m^2	0.0316
Chamber volume	Vc	m^3	0.067
Loading ratio	Lc	$m^2\ m^{-3}$	0.47
Inlet air flow rate	Q	$m^3\ m^{-1}$	0.067
Ventilation rate	Ac	h^{-1}	1.0
Temperature		ºC	23.3
Relative humidity		%	48.6

- Analytical methods: TVOC(Total Volatile Organic Compounds): quantified by GC/MS TIC method using toluene as calibration reference
- Test Result: emission test results for individual VOCs

SUBSTANCE	CAS	CHAMBER CONCENTRATION (µg m-3)	EMISSION FACTOR (µg m-2 h-1)
24 hour test period			
Methyl Methacrylate	80-62-6	6.6	14.0

- Test Result: TVOC Chamber concentrate ions and emission factors

TEST DURATION	CHAMBER CONCENTRATION (µg m-3)	EMISSION FACTOR (µg m-2 h-1)
24 hours	LQ	Not applicable

"LQ" indicates calculated value is below quantification based on concentration LOQ (Lower Limit of Quantification). TVOC is 20 µg m-3. Most standards and guidelines (Ex: EPA, OSHA, etc.) consider 200-500 µg m-3. TVOC an acceptable level in buildings. Levels higher than this may result in irritation to some occupants.

Handling and Storage

- Handling: Solid surface sheets should be unloaded with a forklift or other lifting device capable of handling pallets safely
- Storage: Solid surface sheets should be evenly supported at temperatures between 59-73□F (15-23□C), in a dry and well-ventilated indoor area