

Freestyle® Curve Solid 12mm Surfaces

Freestyle® Curve Solid Surfaces sheet material is manufactured from an acrylic resin, pigments for colour and alumina trihydrate as the filler. Sheets are made using a batch sheet cast forming line. Freestyle Curve Solid Surfaces can be fabricated using standard wood working equipment. It can be postformed to a minimum radius of 75mm.



APPLICATIONS

Freestyle® Curve Surfaces are suitable for many interior surface or interior cladding applications. It is ideal for kitchen and bathroom benchtops, counters, reception desks, wall and column cladding, commercial bars and many other vertical and horizontal applications.

Freestyle Curve Surfaces construction is non-porous with consistent colour throughout the sheet. It cannot delaminate, is UV stable and resists many stains. It has excellent hygienic performance.

SUPPLY AND WARRANTY

Freestyle Curve Surfaces is supplied only through authorised fabricators. The product is covered by a 10 year limited warranty by Laminex when fabricated and installed according to the Installation Manual.

PROPERTY SPECIFICATIONS

Property	Test Method	Units	Typical Results
Specific Gravity	ASTM D792	g/cm ³	1.7
Flexural Strength	ASTM D790	MPa	52
Flexural Modulus	ASTM D790	GPa	7.5
Water Absorption	ASTM D570	% wt	<0.13%
Rockwell M Hardness	ASTM D785	Rockwell units	86
Thermal Expansion	ASTM D696	mm/mm°C	3.24x10 ⁻⁵
UV Stability	NEMA LD3		Slight effect
Wear and Cleanability	ANSI Z124.6	Visual rating	3-4
Gloss (60° Gardner)	ANSI Z124	Gloss units	5 - 20
Impact Resistance	NEMA LD3	Drop ht. = 1.5m Ball wt. = 224g	no fracture with backer
Boiling Water Surface Resistance	NEMA LD3	Visual rating	Very slight effect
High Temperature Resistance	NEMA LD3	Visual rating	Very slight effect
Colour consistency	CIE L*a*b*	Units	Δ E < 1.0
Stain Resistance	ANSI Z124.6	Visual rating	Passes
	ANSI Z124.3	Visual rating	
Fungi & Bacteria	ANSI Z124		no effect
Thermoforming	Internal	Min. radius = 75mm	

FREESTYLE CHEMICAL COMPOSITION

Material	Remark
MMA Methyl Methacrylate	Resin
PMMA Polymethyl Methacrylate	Chips
Alumina Trihydrate	Filler
UV Absorbers, Cross Linking Agents, Stabilisers, Curing Agents, etc.	Additives

FREESTYLE ADHESIVE CHEMICAL COMPOSITION

Base Component	Remark
	MMA (Methyl Methacrylate)
	LMA (Lauryl Methacrylate)
	Fillers & Additives
	SBS Block Rubber
Hardner	DBP (Di Butyl Phthalate)
	Benzoyl peroxide

FIRE TESTS

(Typically achieved when tested to AS/NZS 1530.3)

Indices	Result	Range
Ignitability	9	0-20
Spread of Flame	0	0-10
Heat Evolved	1	0-10
Smoke Developed	4	0-10

Cone Calorimeter AS/NZS 3837 (Irradiance of 50kW/m²)

Classification	Result	Unit/Range
Group Number	3	1-3
Average Specific Extinction Area	117.8	m ² /kg
Average Heat Release Rate	63.9	kW/m ²

Note:

Test Results may vary due to colour and particle size.

PRODUCT RANGE

- Standard sheet size:
Length = 3660 -0/+5mm
Width = 760 -0/+2mm
- Standard thickness: 12 -0/+0.5mm

WHEN SPECIFYING SHEETS

Ask for: Freestyle Curve Surfaces from Laminex in colour:

FABRICATION

The fabrication and installation of all components using Freestyle Curve Surfaces should be carried out by an authorised Freestyle Curve Surfaces Fabricator.

LIMITATIONS

Freestyle Curve Surfaces withstand normal wear and tear. Here are some guidelines to assist in Freestyle Curve Surfaces application and use:

- Avoid leaving hot appliances or utensils in direct contact with Freestyle Curve Surfaces; use a trivet for hot pans or utensils to protect the surface.
- Freestyle Curve Surfaces are intended for interior use only.

Freestyle Curve Surfaces have good resistance to many chemicals. However, due to the wide variety of chemical types and concentrations, it is recommended to test on a sample piece of Freestyle Curve Surfaces to confirm the suitability for the application.

Note: Test results may vary due to colour and exposure time. It is highly recommended that all spills are removed as quickly as possible to reduce staining or damage of the surface.

- To minimise scratching, refrain from sliding hard or heavy objects across the bench top surface. Scratching on dark or vibrant coloured surfaces will be more visible than on lighter colours and will require more ongoing maintenance. Refer to the Maintenance section.
- **Do not allow dry ice to come into contact with Freestyle Curve Surfaces.**
- **Do not cut directly on Freestyle Curve Surfaces.**

MAINTENANCE AND CLEANING GUIDELINES

Level 1

Daily cleaning should use a sponge or microfiber cloth with soapy water. This technique will not alter the surface finish.

Level 2

For more thorough cleaning and removing stubborn stains, consider using baking soda, sugar soap, methylated spirits, mineral turpentine/white spirit or eucalyptus oil. This technique should not alter the surface finish unless very aggressive scrubbing action is applied that could alter the gloss and appearance of the treated area.

Level 3

If removing stains using the above cleaning agents is unsuccessful, abrasive domestic cleaners in cream or powder form, or a wet Scotchbrite pad, may be used. However, this cleaning technique is likely to produce micro scratching, resulting in changes to the surface appearance and gloss levels of dark and vibrant colours. The effects of this cleaning technique need to be blended into the surrounding area to maintain a uniform appearance.

Level 4

For more severe stains, burns, scratches or large chips, the surface may be able to be refurbished by a series of sanding and polishing techniques. For this, an authorised Freestyle Curve Surfaces Fabricator should be contacted. The final appearance after this treatment will be a return to the original smooth satin finish. Should further information on Freestyle Curve Surfaces be required, contact Laminex on 132 136 from anywhere in Australia for fabricator, display and general advice.

FOOD SERVICE COUNTERTOPS Bain Marie

Food service countertops will require different design, fabrication and installation techniques due to the Freestyle Curve Surfaces bench top's possible exposure to greater temperature stresses than the normal residential installation.

It is a requirement of the manufacturer of the stainless steel tank equipment to manufacture all hot tank sections with installed double walls.

FREESTYLE CURVE CHEMICAL AND STAIN RESISTANCE

Freestyle Curve is an acrylic solid surface product with a high level of Alumina Trihydrate content as a filler, which provides superior heat stability and resistance to stains and chemicals. The exposure time to chemicals will have a direct effect on ease of removal. Exposure to harsh chemicals should be avoided at all times. In case of surface contamination, quickly wash affected area. Refer to the Maintenance and Cleaning Guidelines.

The following table shows the chemical resistance of Freestyle Curve Surfaces grouped by colour. Each chemical or stain agent was tested for 24 hours exposure under a watch glass to minimise evaporation and maintain the correct stated concentration. After the exposure time, the test area was washed with water and methylated spirits and wiped clean with a soft cloth, then graded according to the following classifications:

Excellent	No visible change of colour/gloss/corrosion or damage on the surface
Very Good	Very Slight change of gloss and/or colour only visible at certain viewing angles
Good	Slight change of gloss and/or colour
Fair	Moderate change of gloss and/or colour
Failure	Corrosion/damage on surface

For resistance to other chemicals not listed below, it is recommended to test on a sample piece of Freestyle Curve Surfaces to confirm the suitability for the application.

Chemicals	Freestyle Curve	
	White or Light colour	Mid Range colour
Acids		
Acetic Acid (98%)	Failure	Failure
Acid Dichromate (5%)	Good	Good
Chromic Acid (60%)	Failure	Failure
Formic Acid (90%)	Failure	Failure
Hydrochloric Acid (32%)	Very Good	Good
Hydrochloric Acid (10%)	Very Good	Good
Nitric Acid (20%)	Failure	Failure
Nitric Acid (30%)	Failure	Failure
Nitric Acid (65%)	Failure	Failure
Nitric Acid (70%)	Failure	Failure
Nitric Acid 65% : Hydrochloric Acid 32% (1:3)	Failure	Failure
Perchloric Acid (60%)	Failure	Failure
Phosphoric Acid (85%)	Failure	Good
Sulphuric Acid (25%)	Very Good	Good
Sulphuric Acid (33%)	Very Good	Good
Sulphuric Acid (77%)	Failure	Failure
Sulphuric Acid (85%)	Failure	Failure
Sulphuric Acid (95-98%)	Failure	Failure
Sulphuric Acid 77% : Nitric Acid 70% (1:1)	Failure	Failure
Sulphuric Acid 85% : Nitric Acid 70% (1:1)	Failure	Failure
Bases		
Ammonium Hydroxide (28%)	Excellent	Excellent
Sodium Hydroxide (10%)	Very Good	Good
Sodium Hydroxide (20%)	Very Good	Good
Sodium Hydroxide (40%)	Very Good	Good
Sodium Hydroxide (solid - mini pearl)	Good	Good

Chemicals	Freestyle Curve	
	White or Light colour	Mid Range colour
Biological Stains		
Aniline Blue (1%)	Fair	Fair
Basic Fuchsin (0.5%)	Fair	Fair
Carbol Fuchsin (1%)	Fair	Fair
Azure Eosin Methylene Blue (1%)	Fair	Fair
Eosin Y (1%)	Fair	Fair
Gentian Violet (1%)	Fair	Fair
Congo Red (1%)	Fair	Fair
Malachite Green Oxalate (1%)	Fair	Fair
Methyl Violet (1%)	Fair	Fair
Methylene Blue (1%)	Fair	Fair
Safranin O (1%)	Fair	Fair
Sudan III (1%)	Fair	Fair
Wright Stain (1%)	Fair	Fair
Halogens		
Iodine (0.05N)	Good	Good
Iodine Crystal	Fair	Fair
Tincture of Iodine (Betadine)	Excellent	Excellent
Salts		
Iron (III) Chloride (10%)	Good	Good
Copper Sulphate (10%)	Excellent	Excellent
Potassium Iodide (10%)	Excellent	Excellent
Potassium Permanganate (10%)	Fair	Fair
Silver Nitrate (1%)	Fair	Fair
Silver Nitrate (saturated solution)	Good	Good
Sodium Chloride (10%)	Excellent	Excellent
Sodium Hypochlorite (13%)	Excellent	Excellent
Zinc Chloride (saturated solution)	Excellent	Excellent
Organic Chemicals		
Amyl Acetate	Very Good	Very Good
Dimethylformamide	Very Good	Good
Formaldehyde (37%)	Excellent	Excellent
Petrol, unleaded	Very Good	Excellent
Hydrogen Peroxide (30%)	Excellent	Excellent
Methyl Ethyl Ketone	Failure	Failure
n-Butyl Acetate	Very Good	Very Good
Phenol (90%)	Failure	Failure
Xylene	Very Good	Very Good
Solvents		
Acetone	Very Good	Failure
Butanol	Very Good	Very Good
Dichloromethane	Failure	Failure
Ethanol	Very Good	Very Good
Ethyl Acetate	Failure	Failure
Hexane	Excellent	Excellent
Methanol	Very Good	Very Good
Naphthalene	Excellent	Excellent
Tetrahydrofuran	Failure	Failure
Toluene	Failure	Failure

Chemicals	Freestyle Curve	
	White or Light colour	Mid Range colour
Commercial Cleaning Agents		
Commercial cleaner (60% phosphoric and sulphamic acids)	Good	Good
Commercial cleaner (30% caustic)	Very Good	Good
Commercial cleaner (10% citric extracts)	Excellent	Excellent
Commercial cleaner (10% surfactant)	Excellent	Excellent
Commercial cleaner (10% ethanolamine, diethanolamine, sodium carbonate, 2-butoxyethanol)	Very Good	Very Good
Commercial cleaner (60% phosphoric and sulphamic acids)	Excellent	Excellent
Commercial cleaner (10% quaternary ammonium compounds)	Excellent	Excellent
Commercial cleaner (30% sodium hypochlorite)	Excellent	Very Good

Common domestic residues such as the examples listed below may be removed with water, domestic cleaners or methylated spirits. The ratings below indicate the resistance of Freestyle Surfaces to the effects of each stain agent after twenty four hours exposure.

Chemicals	Freestyle Curve	
	White or Light colour	Mid Range colour
Household Stain Agents		
Red Wine	Excellent	Excellent
Coffee	Excellent	Very Good
Curry Powder	Very Good	Excellent
Curry Paste	Excellent	Very Good
Grape Juice	Very Good	Excellent
Mustard	Excellent	Very Good
Salt	Excellent	Excellent
Sugar	Excellent	Excellent
Vinegar	Excellent	Excellent
Biro Ink	Good	Very Good
Cooking Oil	Excellent	Excellent
Eyebrow Pencil	Good	Excellent
Lipstick	Very Good	Excellent
Nail Polish	Excellent	Excellent
Shoe Polish	Very Good	Excellent
Tea	Fair	Good
Whiskey	Good	Very Good
Crayon	Good	Very Good
Hair dye	Fair	Fair
Sorbelene (hand lotion)	Excellent	Excellent
Pencil	Good	No Effect
Soy Sauce	Very Good	Very Good
Tomato Sauce	Excellent	Excellent