



PRODUCTS SPECIFICATION

Chemical Properties of Acrylic Sheet

Resistant Properties to Chemical Agents

Sulfuric Acid 60°C	stability to 60 %
Hydrochloric Acid 60°C	stability to 30 %
Nitric Acid 60°C	stability to 20 %
Caustic Soda 60°C	stability to 50 %
Aqueous Ammonia 60°C	stability to 18 %
Acetic Acid 60°C	dissolvable
Chlorine Water	change to dark color
Iodine Tincture	easily colorate

Resistant Properties to the Solvents

Corrosion resistant at room temperature :	hexane, octane, formaldehyde 40% , methanol, ethanol, glycol, petroleum (contained a little aromatic groups)
Expansion of track at room temperature :	chloroform, benzene, toluene, xylene, acetylene dichloride, acetone, ethyl acetate.

Physical Properties of Acrylic Sheet

Specific gravity	1.19
Hardness	M-100
Absorptivity of water (24hr)	0.3%
Tension	700kg/cm ²
Coefficient of rupture	28,000kg/cm ²
Coefficient of elasticity	28,000kg/cm ²
Bending	1.5kg/cm ²
coefficient of rupture	28,000kg/cm ²
coefficient of elasticity	28,000kg/cm ²

Transmittancy (parallel rays)	92%
(full rays)	93%
Heat distortion temperature	100°C
Coefficient of linear expansion	6x10 ⁻⁵ cm/cm°C
Ultimate temperature of continuous operation	80°C
Thermoforming ranges	140-180°C
Insulating Strength	20v/mm

Tolerance on Length and Width of Sumipex Casting Acrylic Sheets.

Tolerance of Thickness				
Dimension	914 X1830mm ~1270 X 2540 mm		1270 X 2540 mm ~ 2030 X 3050 mm	
Percentage Thickness	mm	%	mm	%
1.0 mm	±0.2	20	--	--
1.5 mm	±0.3	20	--	--
1.8 mm	±0.3	20	--	--
2.0 mm	±0.3	15	--	--
2.5 mm	±0.3	12	--	--
2.8 mm	±0.34	12	--	--
3.0 mm	±0.4	12	±0.55	18
4.0 mm	±0.4	10	±0.5	12.5
4.5 mm	±0.5	10	±0.6	13
4.76 mm	±0.5	10	±0.6	13
5.0 mm	±0.5	10	±0.6	12
6.0 mm	±0.6	10	±0.7	12
6.4 mm	±0.6	10	±0.7	11
8.0 mm	±0.8	10	±0.9	11
10.0 mm	±1.0	10	±1.1	11
13.0 mm	±1.0	8	±1.0	8
15.0 mm	±1.2	8	±1.2	8
18.0 mm	±1.3	7	±1.3	7
20.0 mm	±1.3	7	±1.3	7
25.0 mm	±1.3	5	±1.3	5
30.0 mm	±1.5	5	±1.5	--
40.0 mm	±2.0	5	±2.0	--
50.0 mm	±2.5	5	±2.5	--

Tolerance on Length and Width of Sumipex Casting Acrylic Sheets.

LENGTH OR WIDTH (mm)	TOLERANCE (mm)	LENGTH OR WIDTH (mm)	TOLERANCE (mm)
UT TO 1,000	+3 0	UT TO 1,000	+3 0
FROM 1,001 TO 2,000	+6 0	FROM 1,001 TO 2,000	+6 0
FROM 2,001 TO 3,000	+9 0	FROM 2,001 TO 3,000	+9 0
UT TO 1,000	+3 0	FROM 3,001	+9% ↓ 0

CLASSIFICATION OF DEFECTS

CLASSIFICATION	SURFACE DEFECTS	INCLUSION DEFECTS
NEGLECTIBLE	LESS THAN 1 mm ²	LESS THAN 1mm ²
ACCEPTABLE	1 TO 3 mm ²	1 TO 3 mm ²

PRODUCTS SPECIFICATION

Pay. more attention to the usage of acrylic sheets

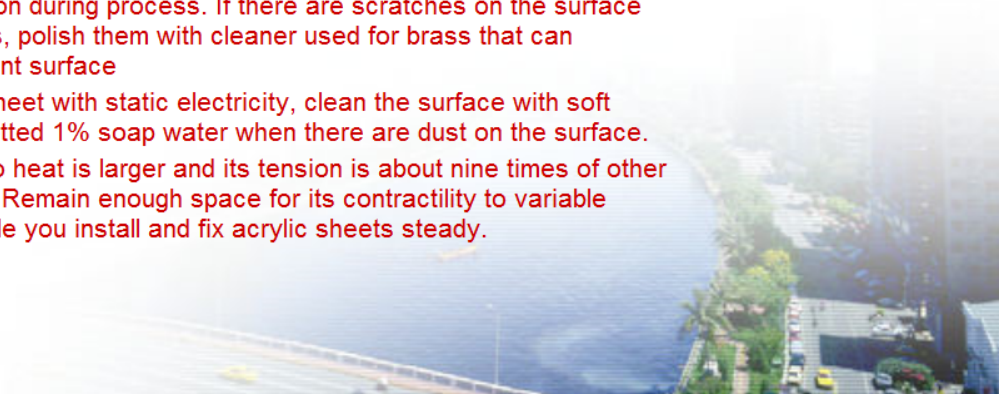
Temperature : Acrylic sheets are softened with heating at 100°C Centigrade or over.

To prevent from becoming soft, please keep units beyond the place over 100°C Centigrade.

Scratch : The hardness of surface is equivalent to aluminum, thus be careful to surface protection during process. If there are scratches on the surface of acrylic sheets, polish them with cleaner used for brass that can remove its brilliant surface

Cleaning : Due to acrylic sheet with static electricity, clean the surface with soft and dry cloth wetted 1% soap water when there are dust on the surface.

Swell : The coefficient of heat is larger and its tension is about nine times of other metal materials. Remain enough space for its contractility to variable temperature while you install and fix acrylic sheets steady.



Special Instruction Under Installation

1. Reserve enough space for contractility, the elasticity of cast acrylic sheet per meter is as following, according to the temperature.

(A) After finishing processed acrylic novelties at 10 Centigrade, the temperature raises to 50°C $1000 \times 8 \times 10^5 \times (50-10) = 3.2\text{m/m}$ (elongation)

(B) After finishing processed acrylic novelties at 10 Centigrade, the temperature falls to -10°C $1000 \times 6 \times 10^5 \times (30+10) = 2.4\text{m/m}$ (shrinkage)

You can consult general settlements to prevent from troubles as following :

1. Reserve the frame for contractility
2. Making elliptical hole with screw
3. Cushion material as elastic as rubber
4. Making acrylic novelties into unprominent shape.
5. Using form to increase the cross-sectional coefficient avoiding interior stress.

2.Prevent Transformation

1. Forming acrylic sheets into wave, wrap and through to increase cross-sectional coefficient in order to prevent transformation from the weight of acrylic sheet itself and lasing
2. Increasing thickness of acrylic sheet as larger length and dimension.
3. Counting thickness, tension tolerance and bending strength of acrylic sheet to endure wind pressure on the surface.