1. Product Name
- PolyVision® Flexible Panels

2. Manufacturer
PolyVision
10700 Abbotts Bridge Road
Johns Creek, Ga 30097
Phone: 678-542-3020
Fax: 678-542-3233
Email: info@polyvision.com
Web: www.polyvision.com

3. Product Description
Since 1954, PolyVision has been an industry leader in durable surfaces, architectural cladding and whiteboards. With offices on three continents and installations throughout the world, PolyVision offers quality products with short lead times and outstanding customer support.

Basic Use
PolyVision Flexible Panels are porcelain enameled steel panels engineered with a bend radius for curved applications. Designed for aesthetics, as well as long term durability, Flexible Panels combine PolyVision a³™ CeramicSteel, a blend of steel enameled in porcelain, with a selection of color, surface, substrate and finish options. Supplied flat, the panels can be molded in the field to create a continuous, uninterrupted design that is strong, colorfast and low maintenance. The panels are ideal for high traffic environments in a wide range of new construction and renovation projects:
- Hospitals
- Offices
- Airports
- Escalators
- Lobbies and corridors
- Subway and railway stations
- Underpasses and tunnels

Types
- Flexible 1: Single a³ CeramicSteel sheet with finished enamel on both sides
- Flexible 2: Two sheets of a³ CeramicSteel bonded back to back
- Flexible 3: Single a³ CeramicSteel sheet bonded to a galvanized steel backer
- Flexible 4: Single a³ CeramicSteel sheet bonded to an aluminum backer

Sizes, Composition and Materials
See Table 1.

Colors
- Traffic White
- Signal White
- Cream
- Light Ivory
- Light Gray
- Mouse Gray
- Traffic Red
- Sky Blue
- Gentian Blue
- Jet Black
- Custom color-matching is optional; contact PolyVision for information

Finish
PolyVision Flexible Panels are available in matte or high gloss finish.

Benefits
- Nonporous, impervious surface protects against graffiti and staining
- Easily cleaned with water and solvent
- Colorfast
- Scratch resistant
- Corrosion resistant
- Chemical resistant
- Bacteria resistant
- Fire resistant
- Reduced life cycle costs

Options
- Surface imaging
- Custom color matching
### Table 1 – Size and Composition

<table>
<thead>
<tr>
<th>Model/property</th>
<th>Flexible 1</th>
<th>Flexible 2</th>
<th>Flexible 3</th>
<th>Flexible 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>a³ CeramicSteel: 0.7 mm steel enamelled in porcelain; two finished sides; 1 mm total thickness</td>
<td>a³ CeramicSteel: 0.56 mm steel enamelled in porcelain; one finished side; 0.84 mm total thickness</td>
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</tr>
<tr>
<td>Edge</td>
<td>Water-resistant Polyvinylchloride tape on 2 sides</td>
<td>Water-resistant Polyvinylchloride tape on 2 sides</td>
<td>Water-resistant Polyvinylchloride tape on 2 sides</td>
<td>Water-resistant Polyvinylchloride tape on 2 sides</td>
</tr>
<tr>
<td>Core</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Back</td>
<td>None</td>
<td>None</td>
<td>a³ Ceramic Steel; 0.56 mm steel enamelled in porcelain; one finished side; 0.84 mm total thickness</td>
<td>Cold rolled galvanized steel, 1.25 mm thick</td>
</tr>
<tr>
<td>Adhesive</td>
<td>None</td>
<td>None</td>
<td>Rubber based contact adhesive</td>
<td>Rubber based contact adhesive</td>
</tr>
<tr>
<td>Thickness</td>
<td>1 mm</td>
<td>1.7 mm</td>
<td>2.1 mm</td>
<td>2.9 mm</td>
</tr>
<tr>
<td>Master panel size</td>
<td>1200 mm × 5000 mm</td>
<td>1200 mm × 5000 mm</td>
<td>1200 mm × 5000 mm</td>
<td>1200 mm × 5000 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>6.4 kg/m²</td>
<td>10.2 kg/m²</td>
<td>14.6 kg/m²</td>
<td>10.7 kg/m²</td>
</tr>
</tbody>
</table>

### Table 2 – Technical Properties

<table>
<thead>
<tr>
<th>Model/property</th>
<th>Flexible 1</th>
<th>Flexible 2</th>
<th>Flexible 3</th>
<th>Flexible 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tension, ASTM C297</td>
<td>NA</td>
<td>Break load &gt; 9000 N</td>
<td>Break load 9000 N</td>
<td>Break load 9000 N</td>
</tr>
<tr>
<td>Shear, ASTM D1002</td>
<td>NA</td>
<td>115 N, 0.018 kg/mm²</td>
<td>115 N, 0.18 kg/mm²</td>
<td>145 N, 0.023 kg/mm²</td>
</tr>
<tr>
<td>Fire classification, EN 13501-1</td>
<td>A1</td>
<td>A1</td>
<td>A1</td>
<td>A1</td>
</tr>
<tr>
<td>Aging of sandwich constructions, ASTM C481</td>
<td>Cycle-B: No delamination after 6 test cycles</td>
<td>Cycle-B: No delamination after 6 test cycles</td>
<td>Cycle-B: No delamination after 6 test cycles</td>
<td>Cycle-B: No delamination after 6 test cycles</td>
</tr>
<tr>
<td>Neutral salt spray, ISO 10927</td>
<td>&lt; 24 h (composite) &gt;1000 h (edge finish and std framing)</td>
<td>&lt; 24 h (composite) &gt;1000 h (edge finish and std framing)</td>
<td>&lt; 24 h (composite) &gt;1000 h (edge finish and std framing)</td>
<td>&lt; 24 h (composite) &gt;1000 h (edge finish and std framing)</td>
</tr>
<tr>
<td>Pencil Hardness, ASTM D3363</td>
<td>&gt;9H</td>
<td>&gt;9H</td>
<td>&gt;9H</td>
<td>&gt;9H</td>
</tr>
<tr>
<td>Wear resistance, ASTM C501</td>
<td>Max. 0.1 g</td>
<td>Max. 0.1 g</td>
<td>Max. 0.1 g</td>
<td>Max. 0.1 g</td>
</tr>
<tr>
<td>Color stability, ASTM C58</td>
<td>∆E₃⁴ ≤ 5 (24h)</td>
<td>∆E₃⁴ ≤ 5 (24h)</td>
<td>∆E₃⁴ ≤ 5 (24h)</td>
<td>∆E₃⁴ ≤ 5 (24h)</td>
</tr>
<tr>
<td>Reflectance, ASTM D2244</td>
<td>Y-Value up to 93%</td>
<td>Y-Value up to 93%</td>
<td>Y-Value up to 93%</td>
<td>Y-Value up to 93%</td>
</tr>
<tr>
<td>Color tolerance, ASTM D2244</td>
<td>∆E₃⁴ ≤ 1.5</td>
<td>∆E₃⁴ ≤ 1.5</td>
<td>∆E₃⁴ ≤ 1.5</td>
<td>∆E₃⁴ ≤ 1.5</td>
</tr>
<tr>
<td>Orange peel, ASTM D523</td>
<td>SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60</td>
<td>SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60</td>
<td>SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60</td>
<td>SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60</td>
</tr>
<tr>
<td>Scratch Resistance, ISO 15695</td>
<td>Min. 7 N</td>
<td>Min. 7 N</td>
<td>Min. 7 N</td>
<td>Min. 7 N</td>
</tr>
<tr>
<td>Sound reduction index, EN ISO 10140</td>
<td>28 dB (Rw)</td>
<td>32 dB (Rw)</td>
<td>35 dB (Rw)</td>
<td>32 dB (Rw)</td>
</tr>
<tr>
<td>Graffiti resistance, EN ISO 28722</td>
<td>No color or gloss change after cleaning</td>
<td>No color or gloss change after cleaning</td>
<td>No color or gloss change after cleaning</td>
<td>No color or gloss change after cleaning</td>
</tr>
<tr>
<td>UV resistance, ISO 4802</td>
<td>∆E₃⁴ ≤ 0.5 (2000 h)</td>
<td>∆E₃⁴ ≤ 0.5 (2000 h)</td>
<td>∆E₃⁴ ≤ 0.5 (2000 h)</td>
<td>∆E₃⁴ ≤ 0.5 (2000 h)</td>
</tr>
<tr>
<td>Impact, ISO 4532</td>
<td>No damage over 2 mm after 24 h (20 N load)</td>
<td>No damage over 2 mm after 24 h (20 N load)</td>
<td>No damage over 2 mm after 24 h (20 N load)</td>
<td>No damage over 2 mm after 24 h (20 N load)</td>
</tr>
<tr>
<td>Cold acid resistance, ISO 28706-1-9</td>
<td>Min. Class A</td>
<td>Min. Class A</td>
<td>Min. Class A</td>
<td>Min. Class A</td>
</tr>
<tr>
<td>Boiling acid resistance, ISO 28706-2-10</td>
<td>Max. 18.5 g/m²</td>
<td>Max. 18.5 g/m²</td>
<td>Max. 18.5 g/m²</td>
<td>Max. 18.5 g/m²</td>
</tr>
</tbody>
</table>
4. Technical Data

Applicable Standards

ASTM International (ASTM)
- ASTM C297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
- ASTM C481 Standard Test Method for Laboratory Aging of Sandwich Constructions
- ASTM C501 Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser
- ASTM C538 Method for Color Retention of Red, Orange, and Yellow Porcelain Enamels
- ASTM D1002 Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)
- ASTM D2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
- ASTM D3363 Standard Test Method for Film Hardness by Pencil Test

International Organization for Standardization (ISO)
- ISO 28722 Vitreous and porcelain enamels – Characteristics of enamel coatings applied to steel panels intended for architecture
- ISO 9227 Corrosion tests in artificial atmospheres -- Salt spray tests European Enamel Authority EEA 2004
- ISO 15695 Vitreous and porcelain enamels -- Determination of scratch resistance of enamel finishes
- ISO 10140 Acoustics -- Laboratory measurement of sound insulation of building elements -- Part 1: Application rules for specific products
- ISO 28706-1 Vitreous and porcelain enamels – Determination of resistance to chemical corrosion – Part 1: Determination of resistance to chemical corrosion by acids at room temperature
- ISO 28706-2-10 Vitreous and porcelain enamels – Determination of resistance to chemical corrosion – Part 2: Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids and/or their vapours

Certifications, Approvals

International Standard
- ISO 28722

European Enamel Authority EEA 2004
- EEA 7.13 Interiors
- EEA 7.14 Exteriors

Porcelain Enamel Institute (PEI)
- PEI 1001

PolyVision has been certified for:
- ISO 9001 Quality Management Systems
- ISO 14001 Environmental Management Systems
- OHSAS 18001 Occupational Health and Safety Management Systems

Technical Properties

See Table 2.

5. Installation

Preparatory Work

Deliver product in manufacturer's original, unopened, undamaged containers with identification labels intact. Store protected from exposure to harmful environmental conditions, above floor level, dry, frost-free and at temperature and humidity levels recommended by the manufacturer.

Precautions

Exercise care during off-loading and installation to avoid damage and marring of finishes. Refer to the manufacturer's Product Care and Cleaning Instructions for details.

Methods

PolyVision Flexible Panels must be installed by manufacturer approved personnel, trained and experienced in skills required. Comply with manufacturers written instructions.

Set units plumb, level and true to line, without warp or rack of clips or panels. Provide proper support and anchor securely in place.

Make field cuts as necessary for penetrations using a power panel saw or skill saw. Use metal cutting, high tooth-count, carbide tip blades liberally lubricated with blade wax. The use of a NIOSH approved respirator is recommended when saw cutting fiber-cement core panels. Seal penetrations with silicone sealant.

Building Codes

Ensure installation complies with the requirements of all applicable local, state and federal code jurisdictions.
6. Availability and Cost
PolyVision Flexible panels are available from the manufacturer and authorized dealers throughout the U.S., Canada and worldwide. Contact PolyVision for availability and cost information within a specific region.

7. Warranty

Limited International Surface Warranty

PolyVision a³ CeramicSteel
PolyVision Corporation warrants all porcelain enameled a³ CeramicSteel surfaces used for architectural applications to be free from defects in materials and workmanship for the periods set forth herein. This limited warranty is valid from the date of shipment.

Surface: 20-year limited warranty
PolyVision warrants that surfaces, under normal atmospheric conditions and when sealed from moisture, will not fade, stain, discolor, craze, crack, flake, corrode or peel for a period of 20 years.

Panel Construction: 10-year limited warranty
PolyVision warrants that panels, under normal atmospheric conditions and when sealed from moisture, will not delaminate from the substrate or warp for a period of 10 years.

Warranty does not apply to product failure or loss resulting from:
- Failure to laminate to sufficiently rigid substrate
- Normal wear and tear
- Abuse, misuse, vandalism or accident
- Alteration or modification of the product
- Faults in underlying structure or panel attachment

Panel Construction: Warranty does not cover:
Materials and services supplied by purchaser or a third party in connection with the fabrication, installation, or maintenance of the product (including, but not limited to, adhesives, sealing agents, substrates, and lamination).

8. Maintenance
No special maintenance is required. Panels can be cleaned with detergent or solvent. Refer to the manufacturer’s Care and Cleaning Instructions for details.

9. Technical Services
Technical assistance, including detailed information, product literature, test results, project lists and assistance in preparing project specifications is available from PolyVision, Inc.

10. Filing Systems
- CMD Spec-Data
- Additional product information is available from the manufacturer upon request

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