

Technical Data Sheet (TDS)

Product Name: Fabricated Solid Panel



Product Description:

The Fabricated Solid Panel is a pre-processed 3mm aluminum panel designed for easy installation directly at the construction site. This product undergoes a series of factory processes to ensure precise fabrication and high-quality finishes. The fabrication includes design drawing generation by engineers based on project specifications, followed by cutting, bending, and welding of the aluminum plate. The back is reinforced with strengthening ribs, edge corners are fitted with corner brackets, and the panel surface is finished with a PVDF or powder coating spray. Once packed, it is ready for delivery to the construction site for quick and easy installation.

Product Specifications:

- **Thickness:** 3mm-6mm
- **Standard Width:** Customizable based on project requirements
- **Standard Length:** Customizable based on project requirements
- **Surface Coating:** PVDF or powder coating (customizable colors)
- **Material:** Aluminum sheet (pre-fabricated with reinforced ribs and corner brackets)

Features and Advantages:

- **Pre-fabricated for Easy Installation:** Fully pre-processed in the factory, eliminating the need for additional processing at the construction site.
- **Custom Design:** Engineering drawings are created according to the project's specifications, ensuring that each panel is tailored to the specific architectural needs.

- **High Precision:** Factory-controlled cutting, bending, welding, and surface treatment processes ensure high-quality, uniform results.
- **Strong and Durable:** The panels are reinforced with strengthening ribs on the back for enhanced structural integrity. Edge corners are fitted with corner brackets for easy installation and added strength.
- **Surface Protection:** The panels are coated with PVDF or powder coating for superior weather resistance, UV protection, and long-lasting color stability.
- **Efficient Installation:** Ready-to-install panels save time and labor at the construction site, providing a streamlined and cost-effective solution for exterior cladding applications.
- **Customizable Colors and Finishes:** The surface can be finished with a variety of colors and coatings, providing flexibility to meet design preferences and project requirements.

Physical Properties:

- **Bending Strength:** ≥ 100 MPa
- **Tensile Strength:** ≥ 200 MPa
- **Thermal Expansion Coefficient:** Approximately $23-24 \times 10^{-6} / ^\circ\text{C}$ (Aluminum properties)
- **Coating Thickness:** 25-30 microns (PVDF or powder coating)
- **Reinforcing Rib Strength:** Provides added structural integrity for demanding applications.

Fabrication Process:

- **Design Drawing:** Based on the project specifications, engineers create detailed fabrication drawings.
- **Cutting and Bending:** The aluminum plates are cut and bent according to the design drawings.
- **Welding and Finishing:** The corners are welded and smoothed for a seamless appearance.
- **Reinforcement:** Reinforcing ribs are affixed to the back of the panels to increase strength and support.
- **Corner Brackets:** Installation corner brackets are attached to the edges for easy mounting.
- **Coating:** The panels are surface coated with either PVDF or powder coating for superior durability and aesthetics.

- **Packaging:** After finishing, the panels are carefully packed and ready for transport to the construction site.

Applications:

- **Exterior Curtain Walls:** Used in modern architecture for exterior building facades.
- **Cladding Systems:** Suitable for cladding applications where pre-fabrication and ease of installation are critical.
- **Commercial and Residential Buildings:** Ideal for both large-scale commercial projects and high-end residential buildings.
- **Signage:** Can also be used in signage systems where durable, weather-resistant materials are required.

Storage and Handling:

- Store in a dry, well-ventilated area to prevent moisture damage and exposure to extreme weather conditions.
- Handle the panels with care during transportation and installation to prevent surface damage or deformation.

Notes:

- Custom dimensions, coatings, and reinforcements are available based on specific project requirements.
- The panels are designed for quick and efficient on-site installation, minimizing the need for further processing.