

# DURASTEEL Panel – Technical Data Sheet (TDS)

**Product Type:** Steel Composite Panel (HDPE Core)

**Products Name:** Durasteel Panel

**Application:** Trailer Body / Truck Box / Transport Equipment



## 1. Product Overview

**DURASTEEL Panel** is a high-performance steel composite panel engineered for transport and industrial vehicle applications.

It consists of two pre-coated steel sheets bonded to a high-density polyethylene (HDPE) core, forming a rigid and lightweight sandwich structure.

Compared with conventional solid steel sheets, the composite structure provides improved stiffness, dimensional stability, and ease of handling, making it suitable for modern trailer and truck body systems.

## 2. Product Structure

- **Top Skin:** Pre-coated steel sheet (0.5 – 0.7 mm)

- **Core:** High-Density Polyethylene (HDPE)
- **Bottom Skin:** Pre-coated steel sheet (0.5 – 0.7 mm)
- **Total Thickness Options:** 7.5 mm / 10 mm

## 3. Key Features

- **High Structural Rigidity**  
The sandwich construction enhances bending stiffness compared to single-layer metal sheets of similar weight.
- **Lightweight Structural Solution**  
By combining thin steel skins with a low-density core, the panel offers an optimized balance between strength and weight.
- **Excellent Surface Flatness**  
The composite structure helps reduce deformation caused by internal stress or

temperature changes, maintaining a stable and flat appearance over time.

- **Impact Resistance**  
Suitable for daily operational impacts in transport environments.
- **Corrosion Resistant Surface**  
Pre-coated steel with polyester finish ensures durability under outdoor conditions.
- **Dimensional Stability**  
Reduced risk of warping or “oil-canning” effects compared to conventional steel sheets.

#### 4. Standard Specifications

- **Available Thickness:** 7.5 mm / 10 mm
- **Steel Facing:** 0.5 – 0.7 mm pre-coated steel (both sides)
- **Core Composition:** High-Density Polyethylene (HDPE)
- **Panel Width Range:** 500 – 1000 mm
- **Panel Length:** Up to 6000 mm or customized
- **Coating System:** High-performance Polyester (PE)
- **Color Range:** RAL colors and project-specific finishes

#### 5. Surface Coating

- **Coating:** High-performance Polyester (PE)
- **Top Coating Thickness:** Typically 20–25  $\mu\text{m}$
- **Back Coating:** 5–10  $\mu\text{m}$

#### Performance Characteristics:

- UV resistance

- Color stability
- Scratch resistance
- Suitable for industrial and logistics environments

#### 6. Performance Description

- **Mechanical Behavior**  
The multi-layer structure distributes stress more effectively than monolithic metal sheets, contributing to improved stiffness and resistance to deformation.
- **Impact Performance**  
The HDPE core provides energy absorption, helping reduce surface damage from external impacts.
- **Bonding Integrity**  
Strong adhesion between steel skins and core ensures long-term structural reliability.
- **Environmental Resistance**  
Resistant to moisture, corrosion, and typical outdoor exposure conditions.
- **Thermal Adaptability**  
Maintains stable performance across a wide range of operating temperatures.

#### 7. Installation & Maintenance

##### Considerations

DURASTEEL panels are typically installed using mechanical fixing methods such as riveting or bolting, allowing:

- Modular panel installation
- Simplified on-site handling
- Convenient replacement of individual panels in case of damage

This approach can reduce maintenance complexity compared to fully welded steel structures.

## 8. Processing & Fabrication

- Cutting: Saw / CNC
- Drilling & Riveting: Compatible with standard metal processing
- Bending: Possible with appropriate tooling and radius control
- Edge sealing recommended for enhanced durability

## 9. Applications

- Trailer side panels
- Truck body panels
- Cargo box structures
- Mobile transport units
- Industrial logistics equipment

## 10. Advantages

- Optimized strength-to-weight ratio
- Improved panel flatness and appearance
- Reduced structural deformation over time
- Flexible installation and maintenance
- Cost-effective solution for transport applications

## 11. Optional Configurations

- Anti-slip surface (flooring applications)
- Enhanced corrosion-resistant coatings
- Customized dimensions and thickness
- Functional surface finishes

## 12. Packaging

- Protective film on surface
- Wooden pallets or bulk packaging
- Edge protection available

## 13. Storage & Handling

- Store in dry, ventilated environment
- Avoid prolonged exposure to moisture
- Handle carefully to prevent coating damage

## 14. Disclaimer

All technical information provided is for reference only and may vary depending on configuration, production conditions, and application. Final performance should be evaluated based on specific project requirements.