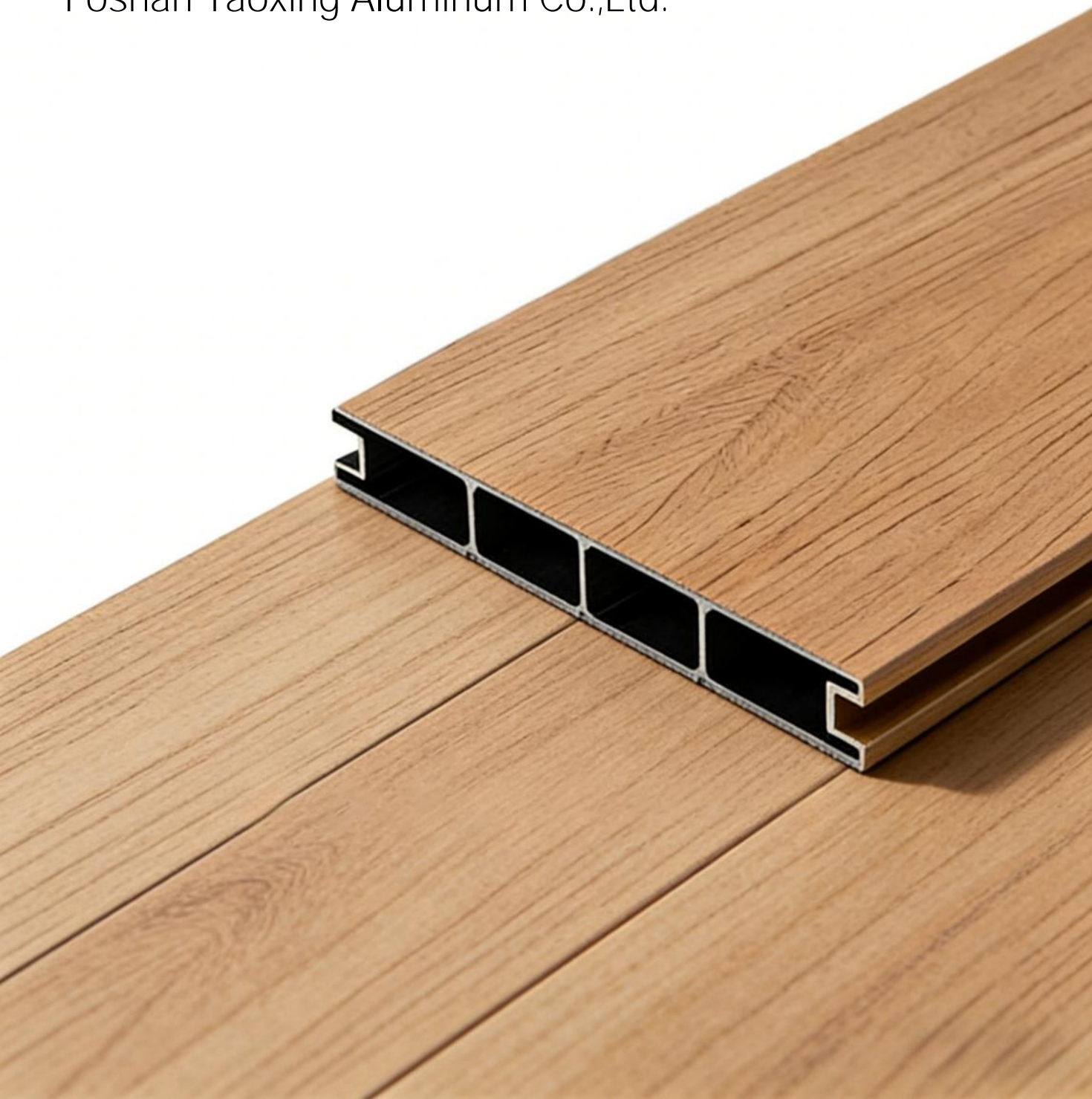


# **Aluminum PE/TPE Decking Installation Guide**

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Foshan Yaoxing Aluminum Co.,Ltd.



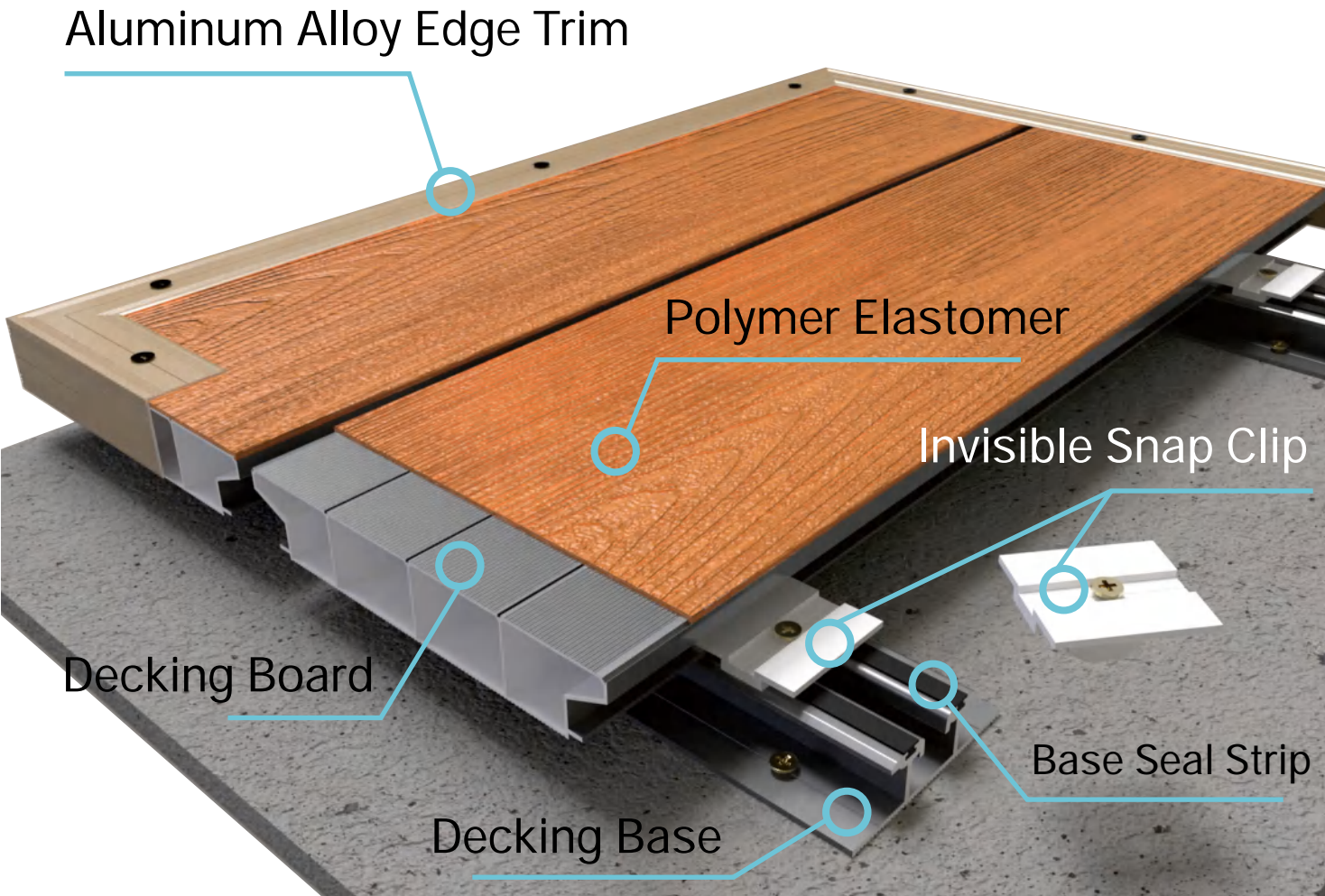
# CONTENTS

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Product Overview And Structure	01
Application Scene	02-03
Product Advantages	04
Product Installation	
Safety Precautions - - - - -	05
Tools Required - - - - -	05
Substructure & Joist Guidelines - - - - -	06
Expansion & Contraction Guidelines - - - - -	06
Accessories List - - - - -	07
Cutting & Drilling Methods - - - - -	07
Installation Steps	08
Edge, Side & Corner Details	09
Daily Maintenance	09
Common Issues & Troubleshooting	10
Warranty & Service	11
Technical Specifications	12-14



# Product Overview And Structure



Our aluminum decking system is a durable, low-maintenance outdoor flooring solution for residential and commercial use.

Constructed from high-grade aluminum alloy, it delivers exceptional strength, corrosion resistance, and long-lasting performance in all weather conditions.

Compared to traditional wood or composite decking, it offers superior durability, fire resistance, and minimal upkeep.

## Key Features

### • Durable & Long-lasting

Made of high-strength aluminum for long service life.

### • Weather Resistant

Excellent corrosion, moisture & UV resistance.

### • Low Maintenance

No painting, staining or sealing required.

### • Fire Resistant

Non-combustible material for outdoor use.

### • Anti-slip Surface

Anti-slip surface for improved safety.

### • Easy Installation

Modular design for fast, efficient installation



# Application Scene



Commercial Outdoor Spaces



Residential Patios And Terraces



Poolside Areas



Walkways And Public Area

# Application Scene



Rooftop Decking



Garden And Backyard Decking



Fish Pond Viewing Platform



Skywalk Between Office Buildings

# Product Advantages



Weather Resistant  
All-weather  
performance



Anti-Slip Surface  
Safe for pool areas



Eco-Friendly & Recyclable  
Sustainable



High Scuff Resistance  
Durable TPE surface



Rot & Mildew Resistant  
No decay



Low Maintenance  
No staining or sealing

## PE Aluminum Plastic Composite



PE2510

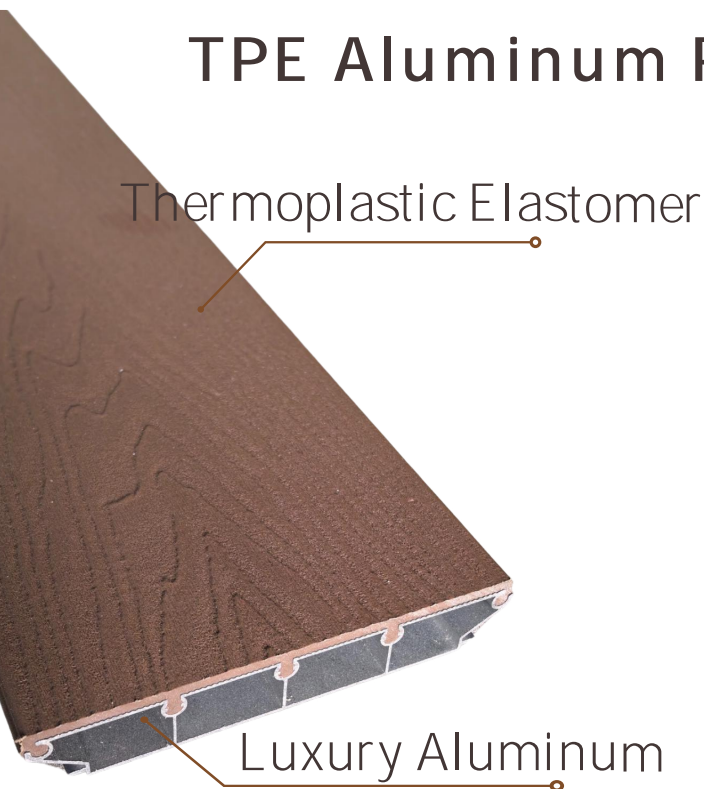
PE2511

PE2512

PE2513

Size	145mm*25mm/145mm*20mm
Aluminum THK	1.0mm
Polyethylene THK	1.4mm

## TPE Aluminum Plastic Composite



colours



TP2501



TP2502



TP2503



TP2504

Size	145mm*28mm/145mm*23mm /145mm*20mm
Aluminum THK	0.95mm~1.05mm
Thermoplastic Elastomer THK	2.5mm~3.0mm

# Product Installation Safety Precautions



Wear gloves and goggles.



No cutting without protection.



The ground must be level and well-drained.



Do not install outdoors in rain or snow.

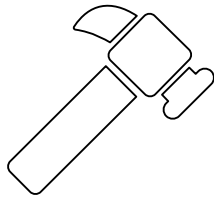


Keep children away from the installation area.

## Tools Required:



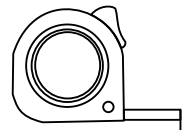
Clips, Screws



Rubber Mallet



Screwdriver,  
Hex Key



Tape Measure,  
Chalk Line



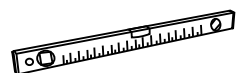
Electric Drill  
/ Impact Drill



Jigsaw / Circular  
Saw (Alloy Blade)



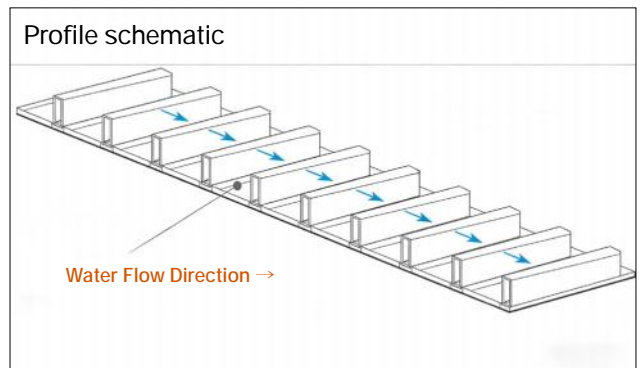
Chalk Line



Spirit Level

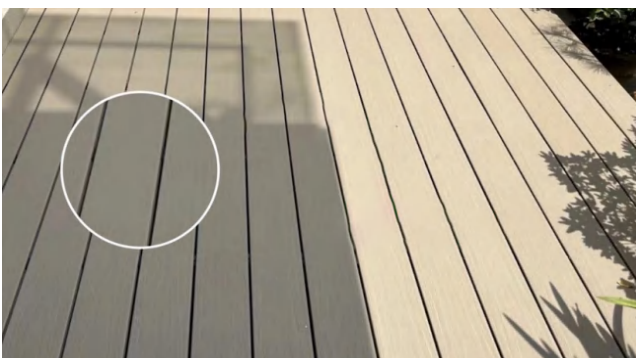
# Substructure & Joist Guidelines

- ◆ Joist material: Aluminum alloy / Galvanized steel / Anti-corrosion wood
- ◆ Joist spacing: 400 mm (Standard)
- ◆ Joists must be level and firmly fixed
- ◆ Drainage and ventilation gaps must be reserved
- ◆ Do not fully seal the ground surface



# Expansion & Contraction Guidelines

- ◆ Between boards: 3–5 mm  
According to the local ambient temperature:  
3 mm clearance when above 30°C  
5 mm clearance when below 10°C
- ◆ From walls / edges: 8–10 mm
- ◆ Install expansion joints at intervals where the length exceeds 6m.  
(Critical to prevent warping due to thermal expansion)



# Accessories List

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- ◆ Decking panels
- ◆ Clips
- ◆ Edge trims
- ◆ Screws
- ◆ Expansion bolts

# Cutting & Drilling Methods

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- ◆ Use an alloy saw blade.
- ◆ The cut surface may be lightly sanded.
- ◆ Drill holes with smooth, rounded edges to avoid stress cracking (for fixing, wiring, or avoiding obstacles when drilling/cutting holes in deck panels or joists).



# Installation Steps

## Step 1

Plan the layout direction. Install joist bases at proper intervals and secure to the ground with screws.



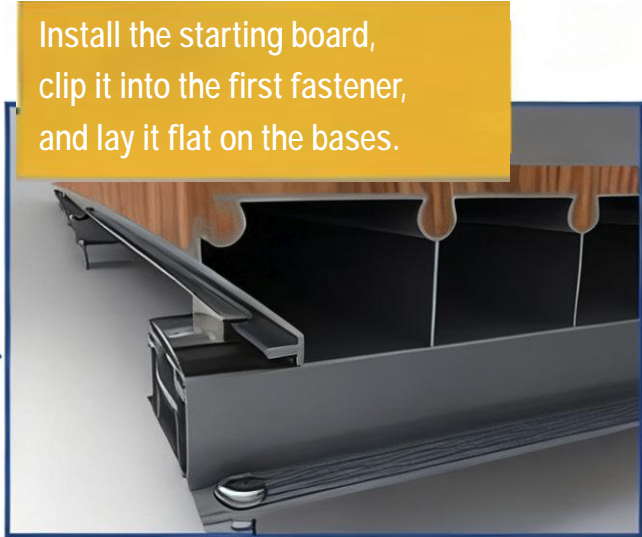
## Step 2

Fix the starting clips to the front of the bases.



## Step 3

Install the starting board, clip it into the first fastener, and lay it flat on the bases.



## Step 4

Secure the standard clips to the bases with screws to hold the decking firmly.



## Step 5

Insert the next deck board into the clips and repeat.



## Step 6

Secure edge trims with screws to finish installation.



# Edge, Side & Corner Details

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- ◆ Side edge installation
- ◆ Internal & external corner installation



## Daily Maintenance

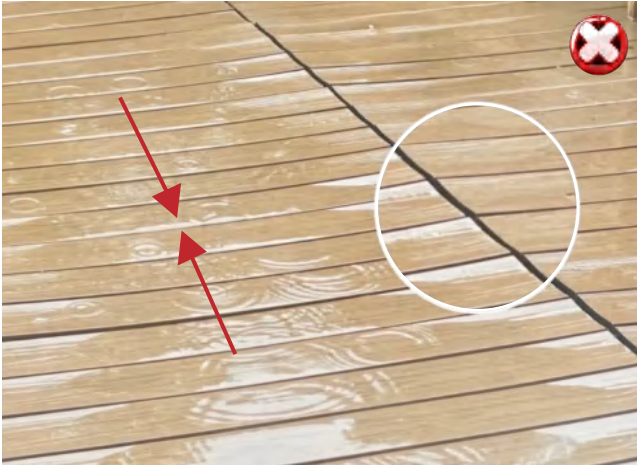
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- ◆ Rinse with clean water only
- ◆ Avoid strong acid/alkali cleaners
- ◆ No painting or waxing required
- ◆ Remove foreign objects promptly
- ◆ If contaminated with oil or grease, clean immediately with mild soapy water.



# Common Issues & Troubleshooting

## ► Expansion Gap



Gap too small  
→ Warping risk



3–5 mm gap  
→ Prevents deformation

## ► Fixing Stability



Loose clips / screws  
→ Noise when walking

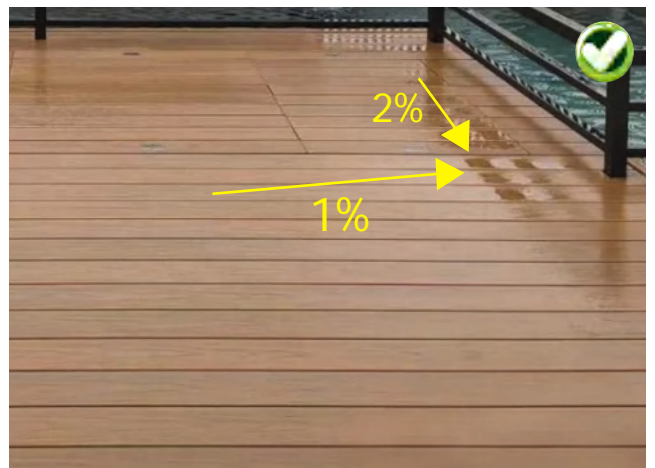


Proper fixing  
→ Stable & silent

## ► Drainage Slope



0° slope  
→ Water accumulation



1–2% slope  
→ Fast drainage

# Warranty & After-Sales Service

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## 1. Warranty & Service

**Warranty Period: 25 years limited warranty** (for original purchaser only)

After-sales Service Hotline: +86-133 3641 2162

Email / Website: sales@yx-aluminum.com | www.yxalufactory.com

Service Hours: 9:00 – 18:00 (GMT+8, Monday to Friday)

## 2. What's Covered

**Material & Workmanship:** Defects in aluminum substrate, PE/TPE coating adhesion, or structural integrity under normal use.

**Performance:** Fading, cracking, or warping that exceeds acceptable industry standards ( $\Delta E > 15$ , visible structural deformation).

**Installation Support:** Free technical consultation for installation issues (via email/phone).

## 3. What's Not Covered

Improper installation, modification, or failure to follow the installation manual.

Damage from accidents, misuse, abuse, or natural disasters (flood, fire, earthquake).

Wear and tear from heavy commercial use (beyond residential patio applications).

Cosmetic damage from harsh chemicals, high-pressure cleaning, or improper maintenance.

Products not purchased from authorized distributors.

## 4. Claim Process

**Contact us:** Submit a claim via email with photos/videos of the issue, order number, and installation date.

**Verification:** Our technical team will review the claim within 3 working days.

**Resolution:**

Free replacement of defective boards (shipping cost to be agreed).

On-site service (available for bulk projects, additional fees apply).

Pro-rata warranty adjustment for products beyond the initial 5-year full coverage period.

## 5. Value-added Services

**Pre-installation consultation:** Free joist layout and load calculation for large projects.

**On-site training:** Optional paid training for installation teams (available in major markets).

**Lifetime maintenance guide:** Digital access to updated care and cleaning instructions.

# Technical Specifications

Applicable for: Aluminum PE/TPE Composite Decking

Test Report No. : RoHS-GZHH00606228/GZHH00606229;

Performance-GZHH0060387701/GZHH0061105101

Test Institute: Intertek Testing Services Shenzhen Limited, Guangzhou Branch

## 1. Standard Product Dimensions

Tolerance refers to actual test specimen, non-standard sizes customizable for projects.

Width × Thickness (mm)	Optional Length (mm)	Test Specimen Reference Size (mm)
145×20	Customizable	-
145×23	Customizable	-
145×25	Customizable	603×144.2×25.6
145×28	Customizable	-
145×38	Customizable	-
150×23	Customizable	-
150×25	Customizable	-
150×28	Customizable	-

## 2. Mechanical & Load Performance

All indicators meet or exceed industry and customer requirements, tested in accordance with national/international standards.

Performance Index	Test Result	Applicable Standard
Minimum Concentrated Load	5123N (span 512mm)	GB/T 24508-2020 §6.5.2; GB/T 17657-2013 §4.7
Recommended Joist Spacing	≤400mm (center-to-center)	- (engineering application recommendation)
Drop Ball Impact Resistance	No damage, indentation diameter 0.81mm	GB/T 24508-2020 §6.5.4; GB/T 17657-2013 §4.51
Abrasion Resistance (Wear Index)	0.0211g/100 revolution	GB/T 24508-2020 §6.5.11; GB/T 17657-2013 §4.44
Performance Index	Test Result	Applicable Standard
Slip Resistance Value	38 (dry/wet)	GB/T 24508-2020 §6.5.12

### 3. Environmental & Durability Performance

#### 3.1 Temperature & Humidity Resistance.

Index	Test Result	Applicable Standard
Thermal Cycle Resistance	No cracking/blistering; length dimensional change rate 0.1%	GB/T 24508-2020 §6.5.19
Boiling Water Resistance (Water Absorption)	Average 0.05%; Max individual 0.08%	EN 15534-1:2014+A1:2017 §8.3.3
Artificial Weathering (600h Xenon Lamp)	$\Delta E=5.28$ ; color fastness grade 3-4; no scaling/cracking	EN 15534-1:2014+A1:2017 §8.1; EN ISO 4892-2:2013
Salt Spray Resistance (240h)	Rust resistance grade Rp=10 (no corrosion defects)	EN ISO 9227:2022
Working Temperature Range	-29°C ~ +70°C (adapt to thermal cycle test conditions)	-

#### 3.2 Chemical & Contamination Resistance

Rating 5 = no obvious surface change (highest grade);  
 ≥4 meets engineering application requirements.

Test Medium	Test Result (Rating)	Applicable Standard
Acetone (16h, room temp)	5	GB/T 24508-2020 §6.5.8; GB/T 17657-2013 §4.41
Coffee (120g/L, 80°C, 16h)	5	GB/T 24508-2020 §6.5.8; GB/T 17657-2013 §4.41
Swimming Pool Simulant (7d)	No visible change	GB/T 11547-2008

## 4. Fire Performance

Fire Index	Test Result & Classification	Applicable Standard
Single Flame Source Test	Flame tip <150mm in 20s; no filter paper ignition; only carbonization	EN 15534-1:2014+A1:2017 §9.6.1; EN ISO 11925-2:2020
Fire Rating	EN 13501-1:2018 Class E	- (meets project basic fire requirements)

## 5. RoHS Compliance & Hazardous Substance Limits

Tested components: PE/TPE surface coating + aluminum alloy core;  
fully compliant with EU RoHS Directive 2011/65/EU & (EU)2015/863.

Restricted Substance	Test Result	RoHS Standard Limit
Cadmium (Cd)	ND ( $\leq 2\text{mg/kg}$ )	0.01% (100mg/kg)
Lead (Pb) / Mercury (Hg)	ND ( $\leq 2\text{mg/kg}$ )	0.1% (1000mg/kg)
Chromium (VI) ( $\text{Cr}^{6+}$ )	Negative ( $< 0.10\mu\text{g/cm}^2$ )	0.1% (1000mg/kg)
PBBs / <u>PBDEs</u>	ND	0.1% (1000mg/kg)
Phthalates (DBP/DEHP/BBP/DIBP)	ND ( $\leq 50\text{mg/kg}$ )	0.1% (1000mg/kg) each
<i>ND = Not Detected; all tests adopt ICP-OES/GC-MS/UV-VIS professional detection methods</i>		

## 6. Material Composition

- Core Structure: High-strength hollow aluminum alloy (silver metal body)
- Surface Coating: Food-grade PE/TPE polymer composite (non-toxic, corrosion-resistant)
- Functional Additives: Halogen-free flame retardants, UV stabilizers, antioxidants (no hazardous additives)
- Product Type: Aluminum-plastic composite (high strength, light weight, low water absorption)

## 7. General Notes

- 1.All technical data is based on Intertek laboratory test results for the submitted samples, valid for the corresponding product batch;
- 2.For on-site installation, follow the joist spacing and load requirements in this manual to ensure product performance;
- 3.Test report verification: [https://verifyindex.intertek.com.cn/home/index?id=hl\\_report\\_verify](https://verifyindex.intertek.com.cn/home/index?id=hl_report_verify);
- 4.The product complies with Chinese national standards (GB) and EU standards (EN/ISO), applicable for global engineering projects.

