EARTHCARE FOUNDATION

TRAINING MODULE 2

Product Awareness & Their Application

Know the product. Spot the defect. Fix it at the source.

For Production Operators, Helpers & Quality Team



About Industries

Transforming Interiors & Exteriors with Elegance, Style and Durability

All industries Known for a strong commitment to quality, innovation and customer satisfaction. A wide product portfolio serves both interior and exterior applications, with a solid reputation built over the years in the building materials industry.

Quality is never cheap, and cheap is never quality.



Manufacturer



Exporter



Trader

Our Brands & Product Range

Strength, durability and contemporary design

Product Range

- Hollow uPVC Doors & Boards
- Solid Ply PVC Doors & Boards
- WPC Door Frames
- uPVC Doors & Windows Profiles
- Wall & Ceiling Panels
- WPC Louvers
- Charcoal Louvers
- PVC Laminates
- FMD Doors
- uPVC Roofing Sheets
- Fluted Wall Panels
- WPC Decking Panels
- WPC Wall Cladding
- SPC Flooring
- Recycled PVC Sheets
- HVLS Fans
- Easy Fix Glue

Why Customers Trust earthcare

Network, manufacturing and sustainability



Nationwide Network

Wide distribution across major cities and states, backed by a large channel partner network. Quick service, consistent supply and timely deliveries.



Manufacturing Quality

Advanced imported machinery and automated systems. Every product goes through strict quality checks by skilled technicians and technologists.



Sustainability & Vision

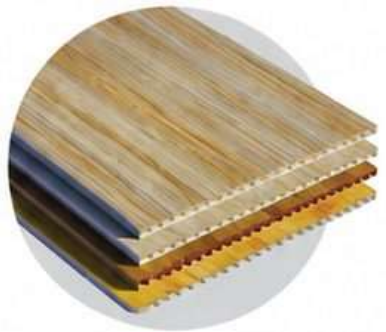
100% recyclable materials, lower environmental impact and the Make in India initiative. Goal: a global leader in PVC and polymer products.

"Infinite Elegance Born From The Nature."

Hollow uPVC Furniture Ply

A modern alternative to plywood with a hollow core for lightness and strength. Refined surface for contemporary interiors.

Parameter	Specification
Product Type	Hollow uPVC Furniture Ply
Structure	Hollow Core (Multi-Cellular)
Width	16", 18", 20", 22", 25", 27", 28", 30", 32"
Length	78", 81", 85", 96"
Surface Finish	Texture, Mat, Gloss, Matt
Edge Finish	Square Edge
Moisture Resistance	100% Waterproof
Termite Resistance	100% Termite Proof
Fire Retardancy	Self-Extinguishing
Applications	Furniture & Cabinets, Wall Panelling, Wardrobes, Drawers
Customization	On request: thickness, finish, size



Key Features

- 100% waterproof
- Termite & borer proof
- High strength, lightweight
- Easy to cut & install
- No painting required
- Eco friendly & recyclable

Solid Ply PVC Doors & Boards

Strong, durable alternative to wood and plywood. Smooth finish adds value to residential and commercial interiors.

Parameter	Specification
Product Type	Solid Ply PVC Boards & Doors
Thickness	5 mm – 30 mm
Width	25" – 48"
Length	75", 78", 81", 84", 96"
Surface Finish	Matt, Texture
Edge Finish	Square
Moisture Resistance	100% Waterproof
Termite Resistance	100% Termite Proof
Fire Retardancy	Self-Extinguishing
Impact Strength	High
Screw Holding	Excellent
Customization	On request: thickness, finish, size



Key Features

- Lightweight yet high strength
- Easy to cut, drill & install
- No swelling, no delamination
- Long life, low maintenance
- Doors, vanities, kitchen cabinets, wall cladding

WPC Doors

Wood elegance with polymer strength. Resists moisture, termites and warping. Built as a decorative WPC surface, polymer core and reinforced frame.

Parameter	Specification
Material	Wood Plastic Composite (WPC)
Surface Finish	Wood grain / decorative
Water Resistance	100% Waterproof
Termite Resistance	Termite & borer proof
Durability	High strength, long life
Maintenance	No painting or polishing
Warping	Resistant to bending & warping
Eco Friendly	Recyclable material
Installation	Easy to cut, drill & install
Applications	Main, interior & bathroom doors



Key Features

- Waterproof
- Termite & borer proof
- Crack & warp resistant
- High screw holding strength
- Low maintenance

WPC Door Frames

Wood elegance with polymer strength. Built as a decorative WPC cladding, polymer core and precision-fit engineered profile.

Parameter	Specification
Material	Wood Plastic Composite (WPC)
Water Resistance	100% Waterproof
Termite Resistance	Termite & borer proof
Strength	Suitable for heavy duty door installation
Dimensional Stability	No shrinkage or swelling
Maintenance	No painting or polishing
Durability	Long service life
Weather Resistance	Indoor & outdoor use
Eco Friendly	Recyclable material
Applications	Door & window frames, architraves, mouldings



Key Features

- Waterproof
- Termite & borer proof
- Crack & warp resistant
- High screw holding strength
- Easy installation

uPVC Doors & Windows Profiles

Engineered for durability and contemporary design. Sleek appearance and consistent performance for homes, offices and commercial spaces.

Parameter	Specification
Material	Unplasticized PVC (uPVC)
Surface Finish	Smooth & glossy
Weather Resistance	Excellent
Colour	White
UV Resistance	High
Fire Performance	Self-extinguishing
Maintenance	Maintenance free
Applications	Windows, doors, partitions



Key Features

- Water resistant
- Termite & corrosion proof
- High impact strength
- Smooth finish, easy to clean
- Energy efficient, lead free

Wall & Ceiling Panels

Panels that blend style and durability for seamless walls and ceilings with a premium touch.

Parameter	Specification
Material	Unplasticized PVC (uPVC)
Surface Finish	Smooth & glossy
Weather Resistance	Excellent
Colour	White
UV Resistance	High
Fire Performance	Self-extinguishing
Maintenance	Maintenance free
Applications	Wall cladding, ceiling panels, false ceiling, interior decor



Key Features

- Water resistant
- Termite & corrosion proof
- High impact strength
- Smooth finish, easy to clean
- Environment friendly

DEFECT AWARENESS

Right First Time



Higher Productivity

Fewer stoppages, less rework and more good output every shift.



Better Resource Use

Less scrap of material, energy and machine time.



Lower Rejection %

Defects stopped at the source before they reach the customer.

17 defects | 4 process areas | 3 golden rules

Defect Map: Where Defects Start

Find your process area, then open the matching defect slide

Material & Compound

- Black Marble
- Rib Line Visible
- Hole on Sheet or Section

Extrusion, Die & Sizer

- Wavy Edge
- Round Corner
- Rib Bend
- Thickness Variation at Corner
- Rib Cut
- Surface Thickness Variation
- Scratch on Sheet

Hot Stamping & Printing

- Foil Delamination
- Lines on Foil
- Colour Variation in Foil
- Colour Variation in Printed Sample
- Ink Patch on Sheet

Cutting & Handling

- Cross Cutting
- Handling Mark

Slides 14 to 23 show the photo, cause and corrective action for each of the 17 defects.

3 Golden Rules to Cut Rejection

Simple habits taken from the corrective actions on the next slides



1. CHECK before start-up

- Material looks clean before hopper
- Foil and sheet colour match the master sample
- Die gauging and surface thickness checked
- Die, steel roll, PU and adhesive rollers in good condition



2. WATCH during running

- Extruder load and processing temperature
- Haul-off speed and sizer vacuum
- HSP machine at standard speed
- Cutter alignment and trolley speed



3. ACT at first sign

- Stop and adjust the machine
- Inform operator / QC immediately
- Segregate OK and rejected pieces
- Record the defect and the action taken

Material & Compound Defects

Material quality problems

1 Black Marble (Blackish Material Flow)



WHY IT HAPPENS

- Contamination in the material

WHAT TO DO

- Check material visually before it goes into the hopper
- Do not load material that looks contaminated

2 Rib Line Visible



WHY IT HAPPENS

- Problem in the compound (formulation)

WHAT TO DO

- Revise the material recipe
- Inform Quality / Technical team

Material & Compound Defects

Material quality problems

3 Hole on Sheet or Section



WHY IT HAPPENS

- Contamination in the material
- Material strength is not good

WHAT TO DO

- Remove contamination
- Improve material strength
- Adjust processing temperature

Extrusion, Die & Sizer Defects

Shape, thickness and surface problems

4 Wavy Edge (Weaving in Moulding)



WHY IT HAPPENS

- Material does not flow evenly
- Extruder load keeps changing

WHAT TO DO

- Adjust processing temperature
- Adjust haul-off speed to steady the flow

5 Round Corner



WHY IT HAPPENS

- Uneven material flow and changing extruder load
- Sizer vacuum is not uniform

WHAT TO DO

- Adjust processing temperature
- Stabilise extruder load
- Set sizer vacuum evenly

Extrusion, Die & Sizer Defects

Shape, thickness and surface problems

6 Rib Bend



WHY IT HAPPENS

- Material flow varies
- Die punch is not uniform

WHAT TO DO

- Set the material flow correctly
- Modify the die design or punch if needed

7 Thickness Variation at Corner (WPC Sheet)



WHY IT HAPPENS

- Material flow varies
- Extruder load changes

WHAT TO DO

- Keep extruder load steady
- Adjust processing temperature to control the flow

Extrusion, Die & Sizer Defects

Shape, thickness and surface problems

8 Rib Cut



WHY IT HAPPENS

- Foreign particle stuck in the die
- Material not melted properly

WHAT TO DO

- Clean the die properly
- Adjust temperature so material melts fully

9 Surface Thickness Variation



WHY IT HAPPENS

- Thickness differs at the two ends of the sheet
- Die gauging was not done properly

WHAT TO DO

- Check surface thickness before extruder start-up
- Re-check whenever the load varies and adjust

Extrusion, Die & Sizer Defects

Shape, thickness and surface problems

10 Scratch on Sheet



WHY IT HAPPENS

- Dent or foreign particle stuck in the die or sizer

WHAT TO DO

- Check die and sizer as soon as scratches appear
- Clean or repair before restarting

Hot Stamping & Printing Defects

Foil, ink and colour problems

11 Foil Delamination



WHY IT HAPPENS

- Sheet surface is not uniform
- Hot-stamping speed is too high
- Adhesive roller is rusty or blocked, so adhesive spreads unevenly

WHAT TO DO

- Keep sheet surface uniform
- Run HSP machine at standard speed
- Check roller condition at regular intervals

12 Lines on Foil



WHY IT HAPPENS

- Design roll used instead of plain roll
- PU roll surface is worn out
- Foil colour is not uniform

WHAT TO DO

- Load plain steel roll for HSP sheets
- Keep PU roll in good condition
- Check foil colour before pasting

Hot Stamping & Printing Defects

Foil, ink and colour problems

13 Colour Variation in Foil



WHY IT HAPPENS

- Foil was not checked against the master sample before start-up

WHAT TO DO

- Match foil with the master sample at start-up
- Match every foil lot received from the vendor

14 Colour Variation in Printed Sample



WHY IT HAPPENS

- Variation in the base sheet colour

WHAT TO DO

- At start-up, match granule and sheet colour with the master sample
- Or check with a spectrophotometer

Hot Stamping & Printing Defects

Foil, ink and colour problems

15 Ink Patch on Sheet



WHY IT HAPPENS

- Dent on the steel roll

WHAT TO DO

- Check the steel roll regularly
- Repair or replace it if dented or damaged

Cutting & Handling Defects

Length, cut and damage problems

16 Cross Cutting



WHY IT HAPPENS

- Cutter is not aligned properly
- Travelling table forward / reverse movement is uneven

WHAT TO DO

- Align the cutter
- Set the travelling trolley speed

17 Handling Mark (Sharp Particle Impression)



WHY IT HAPPENS

- Mishandling of the sheet
- Sharp particle stuck near cutter clamp or downstream of extruder

WHAT TO DO

- Handle with care
- Check the downstream area while the machine is running

Stop. Check. Fix. Record.

1. **Know the product**
   Check size, thickness, colour and finish against the approved master sample.

2. **Spot the defect early**
   Use the defect slides at the line; act at the first sign.

3. **Fix the cause, not just the piece**
   Adjust temperature, load, speed, vacuum, rollers or die as shown.

4. **Keep OK and rejected apart**
   Record every defect so it can be prevented next time.

Fewer defects = higher productivity, better resource use, lower rejection %