Processing Guideline

Stand: 01.10.2013

1. Introduction

Our standard lightweight panels respectively any customized panel demand not only a great deal of the modern Design Composite production equipment, but also a comprehensive know-how of processing and handling by our customers.
Following instructions and suggestions should assist you to handle Design Composite lightweight panels according to their properties.

2. Metal cutting processing of Design Composite panels

2.1 General

In principle the selection of the cutting tool depends on the type of top sheet material.
Note: In general we recommend to wear protective gloves and safety glasses during mechanical processing with the panels.

2.2 Drilling

Any conventional metal drill bit (HSS spiral bit) can be used. Panels without metallic top sheets should be drilled with high drill speed (50 – 10 m/min, but little feed speed). We recommend an advance drill if the hole diameter is more than 5 mm.
Due to the thermal expansion of any thermoplastic top sheet a hole diameter of minimum 2 mm bigger than the screw diameter is imperatively required.
Lubrication is useful during drilling in order to achieve an optimum drill surface.

2.3 Sawing

Sandwich panels can generally be cut with standard workshop equipment (e.g. work table or hand circular saw, compass and band saw). Carbide tipped saw blades with a large number of crown teeth together with high cutting speed and little feed speed produce optimum results.
When drilling a support could prevent detachment of the lower top sheet.

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Cutting thermoplastic sheets (e.g. clear-PEP®, clear-PEP® color, AIR-board®, AIR-board® satin) require special saw blades in order to avoid bursting of edges.
Recommendation: Leitz HW circular saw blade for NE-metal neg. HW 300x3.2x30, Z96, FZ / TZ.
For further information look up www.leitz.org

Cutting with laser and/or water-jet is not possible!

2.4 Milling

Sandwich panels can be milled with cemented carbide (CC) milling tools.
Note: high cutting speed (15.000 – 25.000 R/min) combined with little feed speed produces optimum results.

2.5 Grinding

Grinding is used to adjust minor top surface defects or rough cutting edges. High grinding speed with little feed speed is recommended too. The requested roughness can be adjusted with the grit size of the sandpaper. Tape speed of
10 m/s is suggested.

2.6 Burnishing

Manual polishing can either be done with a soft cloth or with a suitable felt together with a polishing paste.
Larger surfaces should be polished with a face-polishing machine that is equipped with a cloth of felt or lambskin soaked with polishing paste.

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