HYPETEX®

Guidelines

Section - 2

Finishing

HYPETEX®

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Hypetex Finishing Guidelines

Once cured, the part can be removed from the mould and prepared for finishing.

1. Sanding

Any over-sanding of the part will result in the appearance of the black layers below. It is important to limit the risk of breaking fibres and decreasing the strength of the final part. A few techniques can be used to avoid excessive sanding, these are highlighted below:

- The usage of release films over liquid release agents.
- Performing a light sanding using grey scotch (800 grit) or an equivalent or finer grade of abrasive material.
- Introducing a sacrificial layer of glass fibre onto the surface of the layup. This will act as a barrier between the source of abrasion and the coloured fibre.

FOR RECOMMENDED PRODUCTS REFER TO APPENDIX

a. Fibre glass veil

If the abrasive preparation of the part is needed, a sacrificial layer of glass can be used between the tooling and the Hypetex Carbon. During the sanding process, the layer of glass will be sacrificed to provide a smooth finish without damaging the carbon fibre.

This layer of glass fibre should be as thin as possible to get the best possible transparency. A veil or fabric can be used if it is lower than 50gsm in fibre areal weight(FAW). If a higher FAW glass fibre is used there may be a slight imprint on the surface of the composite part that will negatively affect the visual quality of the part. Hypetex recommends the use of a non-woven glass veil however if this cannot be sourced the use of a woven fabric is acceptable. The glass fibre will also provide a pinhole-free surface thanks to its low-crimp surfaces. Some examples of glass fibre veils are pictured below.

Fig.1

b. Peel ply

The use of a peel ply on the A-surface of the composite part can remove the need for any sanding that would otherwise be required before applying lacquer to the part. Peel plys can also help by doing the following:

- A peel ply creates a controlled, textured surface on the cured part after it is removed. This texture improves the bond strength for any secondary operations, such as adhesive bonding, painting, or coating.
- Peel plies help absorb and control excess resin during the curing process, preventing resin-rich areas that can add unnecessary weight or cause weaknesses.
- A peel ply helps in reducing surface defects by maintaining even pressure distribution and promoting better consolidation of the laminate layers.

2. Cleaning

Hypetex recommends the use of Isopropanol alcohol for cleaning any release agent off the demoulded composite part. Some colour leaching might be observed, but this should not affect the aesthetic of the part.

After sanding the composite part can be degreased using D837 Spirit wipes to prep for laquering.

Hypetex strongly suggests against the use of aggressive solvents to clean the parts as this can rub off colour and damage the parts.

IMPORTANT:

DO NOT apply any solvent-based cleaning agent onto the finished part to clean it.

3. Recommended Products for finishing (but not limited to)

Hypetex coloured fabrics cannot be abraided as normal as this removes the colour. Prep lightly with 800 grit sandpaper and grey scotch by hand.

Pre-cleaning is done following the normal process.

a. Lechler/Carbo Clear Process LS143 (29143) ACRYL 2K*

i. Lacquering Process

- Please read the datasheet before use.

- 2 x wet on wet coats, 5 min flash between coats, 15 min flash before baking for 40min @ 70c.

- After the first application has been completed normal processes are to be followed

b. Oxeco Kotefast with clear coat/lacquer

Kotefast SP200 is used as a surface preparation prior to painting or lacquering of polymer composite substrates. Kotefast can be sprayed or rolled onto a surface and is activated by curing, either in a convection oven or by infra-red. A lacquer can then be added after the layer of Kotefast is cured.

Please refer to the technical data sheet for the application guidelines.

Kotefast is an alternative to mechanical abrasion.

https://www.oxeco.co.uk/resources

c. Part Cleaning

Hypetex recommends the use of Isopropanol alcohol for cleaning any release agent off the demoulded composite part. Some colour leaching might be observed, this should not affect the aesthetic of the part.

D837 for Degreasing

d. Glass fibre veil for sacrificial protection

Different veils can be chosen depending on the purpose of the final product. Hypetex recommends the use of veils between 20-50gsm depending on the requirements.

https://www.tfpglobal.com/products/composite-materials

https://www.made-in-china.com/manufacturers/glass-veil.html

https://www.nanjingefg.com/composite-mat/fiberglass-composite-mat.html

Please contact technicals@hypetex.com for further technical information.