

hybrid | **FLOW**

General information

HybridFLOW is an inorganic-organic intumescent basecoat designed to be used together with HybridRED 200-series. It provides excellent adhesion to various materials and cures at room temperature.

HybridFLOW shows very low heat release rates during burn compared to traditional organic epoxy-based intumescent coatings.

General characteristics

- solvent-based, high-solids basecoat
- available in black and grey
- fast tack-free time
- no need for post-curing at elevated temperature
- wide application window

The HybridFLOW 300-series have been designed to provide enhanced thermal insulation properties to a finished coating system by utilizing intumescent technology. It is very well suited for 3D printed parts as rough or pitted surfaces can be easily sanded back to the optimum film thickness, to then provide a smooth base for subsequent application of one of the products from the HybridRED 200-series.

HybridFLOW 310 Two component system with highest expansion rate. Particularly recommended for applications where heat transfer to the composite is to be minimized, to meet the toughest fire regulations. Can be applied directly in single layers up to 1 mm thick.

HybridFLOW 311 One component system of with highest expansion rate. Particularly recommended for applications where heat release from the composite is to be minimized, to meet the toughest fire regulations. Can be applied directly in single layers up to 0,5 mm thick.

HybridFLOW 312 One component system forming more rigid char, but less expansion. This is recommended for applications with vertical burn scenarios. Can be applied directly in single layers up to 0,5 mm thick.

Typical applications

- 3D-printed thermoplastic parts
- Railway, marine and aerospace composite parts

Usage

The working temperature should be 15–25°C. HybridFLOW 310: curing agent is supplied with the basecoat. Add the curing agent according to the mixing ratio on the label. Working time is 8 – 10 hours depending on ambient temperature and moisture.

Application of 300 series

- conventional spray gun = nozzle size: 2,2 mm, pressure: 2,5 bar
- high pressure spray gun, pressure 160 – 180 bar, nozzle 425

Spray 4 or more passes wet-on-wet to reach target wet film thickness. The product can be applied with brush or roller as supplied, but when sprayed dilution with Solvent 22 may be needed. Clean tools with acetone or equivalent.

Curing Conditions

HybridFLOW is based on unique Hybrid technology that is a double curing system where initial tack-free cure occurs with ambient moisture. This is rather fast reaction and tack-free surface can be achieved within 30 minutes to 1 hour depending on the conditions. The second reaction is cross-linking, which is relatively slow process and dependable on temperature.

Sanding of the cured HybridFLOW can be started as soon as the surface is tack free, but overnight curing at room temperature is recommended.

However, this can be accelerated with increasing ambient moisture content – while avoiding direct water contact. After spray application and flash-off, moist elevated temperature can be applied. This can range from 50°C to 140°C and from 8 hours to 1 hour and any variation between.

Safety and Handling

The content of an opened package is influenced by air moisture. Keep tightly capped when not in use. Handle in a well-ventilated area. Store indoors at room temperature in the original containers kept tightly closed. Protect from direct sun light. Detailed safety information for safe handling is contained in the material data safety sheet. Shelf life is at least 12 months from the date of manufacture, when properly stored.