

1. Area of Application

- Automated system for continuous production of preforms for 3D-formed and curved composite profiles (i.e. stringers or frames).

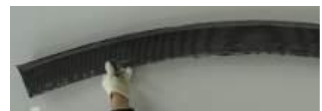
2. Operation

1. Unreeling material stored on creels
2. Stacking of subpreform lay-ups
3. Local pre-fixing of subpreform stacks
4. Cross-section forming of subpreform
5. Curvature forming of subpreform
6. Fixing of subpreform
7. Cutting of subpreform
8. Handling and positioning of subpreforms with composite. Handling system in mounting tool.
9. Mounting and fixing final preform

3. Technical Data

- Technology
 - Profile production by continuous preform forming and fixing
 - Production of dry carbon fiber preforms
 - Bonded composite materials or binder-ply for preform fixing
 - Binder activation: IR- or induction-technology
 - Automated cutting device
 - Resin infusion and consolidation in RTM tool
- Systems Engineering
 - Complete PLC controlled system and WLAN mobile pendant
 - Maximum production speed: 2 m/min.
 - Material stored on creel: ~ 300 m
 - Material width on creel: 300 mm, others optional
 - Maximum number of layers / preform: up to 8
 - Maximum preform length: 2 m, others optional
 - Minimum curvature radius: 1.500 mm, (depends on the drapability of the lay-up-stack)
 - System area: 8 m x 2.5 m, configuration dependent
 - oil- and grease-lubricant free
 - Material with composite contact: stainless steel

CONTINUOUS COMPOSITE PREFORMING SYSTEM "CCPS"



4. Cycle Time

- Maximum: 1 ea profile (2 m length) per minute
- Cycle time dependent upon manufacturing process and lay-up/stacking requirements

5. Special Features

- Complete PLC controlled system
- WLAN mobile pendant
- Production of 3D-formed and curved profiles by continuous preform forming and fixing
- Multilayer-preforms possible
- Complex preforms possible through combination of sub-preforms
- Continuous pre-preforming followed by final forming in press tools possible for:
 - Variable cross sections
 - Flanges, ears, tabs
- Application of local batch ply layup feasible
- Special cutting device with dust exhaustion
- Preform handling with BRÖTJE-Automation designed "EVO" Composite Handling System
- Modular concept for production facility
- Easy material change
- Maintenance friendly
- Easy demounting and cleaning of components



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