NEW PIPELINE REALIZATION SYSTEM

CARBON COMPOSITI present at JEC 2018 the new system to realize the GRP pipeline system.

The system allows to assemble pipes and fittings for bonding

PERFORMANCE OF THE FILLING ADHESIVE.

The adhesive used, has a matrix of vinylester resin with high chemical inertia, so there is no problem if it meets the transported fluid.

High adhesion greater than 5 MPa, you can see the film that highlights the interlaminar break without affecting the adhesive

https://youtu.be/Mwxk4ZAgHtA

The vinylester based adhesive it also has a filler function for the spaces that may exist between the surfaces to be bonding.

- Certificate https://www.dropbox.com/s/lcdmodowi4d1ee1/Certificato%20023-17.pdf?dl=0
- JEC Brochure https://www.dropbox.com/s/qksluabk2loq62b/Brochure%20JEC.pdf?dl=0

MONOLITHIC ELBOWS

Carbon Composites has developed a system for moulding elbows with monolithic gluing bells.

The mould breaks up into 4 pieces for fast and rapid extraction. The elbow is made with a sock-like reinforcement that allows both the axial and the circumferential direction to have the same mechanical characteristics. This reinforcement also allows to reach an elastic modulus up to 18,000 MPa.

A spool composed of DN 100 pipes, two 90° elbows and two flanges glued with sleeves was pressurized for 2.000 hours at a pressure of 1.5 MPa (15 bar) with creeping lower than the instrument it detects.

ASSEMBLING OF THE VARIUOS COMPONETS

All the components of the pipeline are assembled by bonding, so the user can buy pipes, elbows, flanges and reducers and assemble them by simple bonding without any constraint in lengths or directions.

Reducing installation time by up to 40% compared to welding times with traditional systems.

With the use of operators not particularly specialized in the sector
Very similar to the PVC PP thermoplastic material pipeline assembling, but with much higher resistance characteristics

https://www.youtube.com/watch?time_continue=14&v=dARTwVuDDh0

Before putting these innovative products on the market, Carbon Compositi, wanted to test them in all the aspects; A Pipe to which 2 flanges had been associated, was pressurized to 2.5 MPa (25 bar) recording over time the axial and circumferential deformations of the various pipe, flange sleeve components; The data were then elaborated with the FEM finite element analysis system for a global evaluation.

https://www.dropbox.com/s/6renojvf7dtc10v/Report%20Strains%20on%20spool.pdf?dl=0

It remains however always possible, in favour of safety, to cover the joints with one or more layers of GRP, but this operation is still much easier when the sketches are already fixed and stabilized.