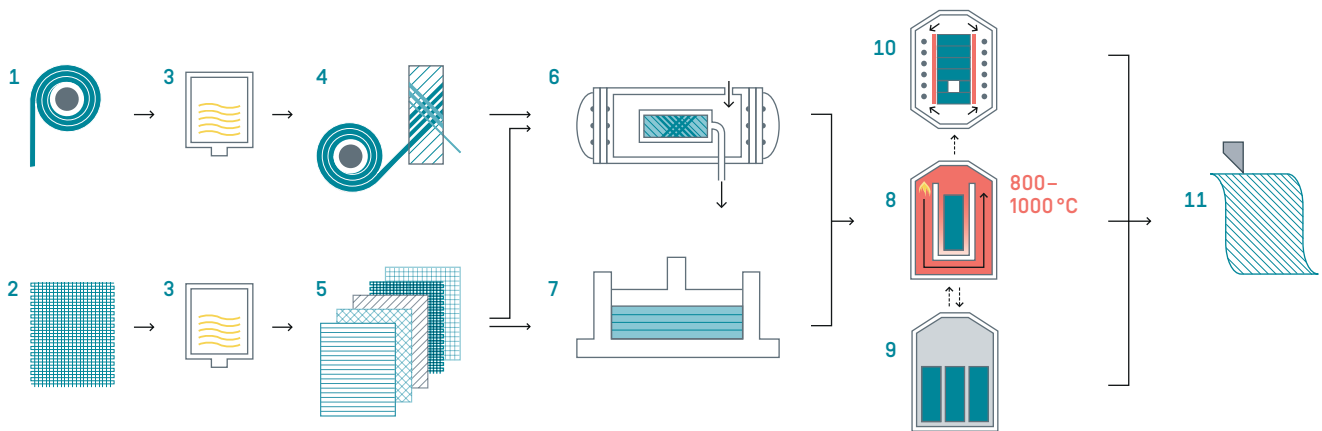


SIGRABOND Chemical

Production process

SIGRABOND Chemical is a modern high-strength, temperature and corrosion resistant composite material made of carbon fibers within a plastic or carbon matrix. Applying the SGL Carbon production process for carbon composites different material

grades of SIGRABOND Chemical are available to realize a new benchmark for internals within state-of-the-art column design.



- 1 Spool of carbon fibers mainly used for production of cylindrical parts
- 2 Carbon fiber fabric mainly used for production of carbon fiber plates
- 3 Phenolic based resin for pre-impregnation of carbon fibers or fabrics before shaping
- 4 Semi-automated winding of pre-impregnated carbon fibers following a specified build-up sequence
- 5 Lamination of pre-impregnated fabrics following a specified build-up sequence
- 6 Compacting and curing of wound components at temperature and vacuum

- 7 Pressing and curing of laminates at temperature and pressure to plates
- 8 Carbonization of cured "green" products to convert phenolic matrix material into carbon
- 9 Densification of carbon fiber components by impregnation with phenolic based resin or pitch
- 10 Densification through chemical vapor deposition (process step not part of standard route)
- 11 Machining of carbon fiber cylinders or plates to single parts and assembly of components

