

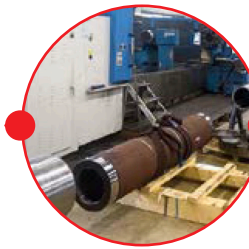
A component journey

Catching the waves – Wave energy converter

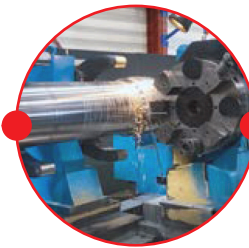
Inspired by the pumping principles of the human heart, next-generation wave energy converters are a valuable renewable energy technology, offering five times more energy per tonne than previously known technologies. Bodycote's proprietary Corr-I-Dur® treatment is used to protect multiple important converter components against the harshest marine conditions ensuring corrosion resistance and durability. In this journey, we will look at the cylinder – a core component of the converter system.



The cylinders start life as solid high strength steel rods.



The solid steel rods are machined into hollow cylinders.



The cylinders are machined to their final shape.



B The cylinders are stress relieved to eliminate any residual stresses in the steel acquired during machining, preventing material failures during subsequent manufacturing stages.



B The cylinders are treated with Bodycote's thermochemical Corr-I-Dur® treatment to improve corrosion resistance, durability and wear properties by generating a protective iron nitride-oxide compound layer.



The treated cylinders (note the black finish from the Corr-I-Dur® treatment) begin their final assembly.



End application, **offshore wave energy converter array.**



When the cylinders are assembled they are integrated into the wave energy converter.

B Denotes the parts of the component journey undertaken by Bodycote