WE4CE
THE ROTORBLADE SPECIALIST

Bushings in Rotor Blades: Technology and Strength Drivers

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Engineering Manager and Co-owner
23 year experience blade design

We4Ce Services

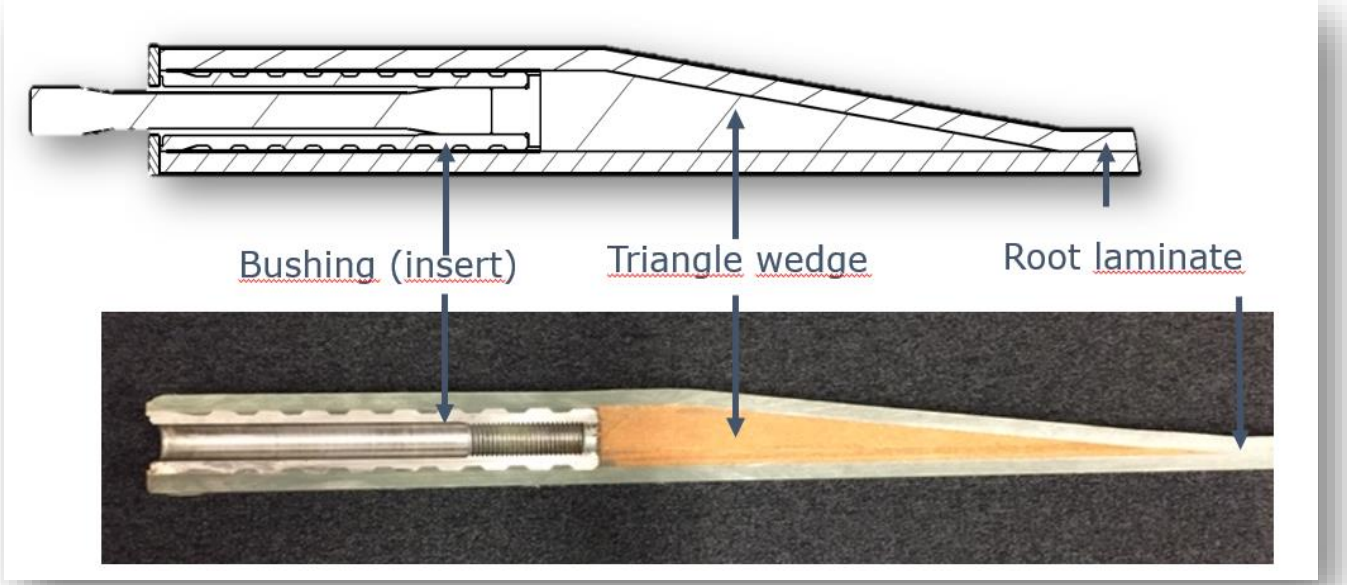
Rotor Blade Design	Airfoil and Aero optimisation	Segmentation of blades	Bushing Technology

We offer:
- **License to use**
- **Supply of sub-components**

Objective:
- Supply of modular roots (M.A.R.S.)

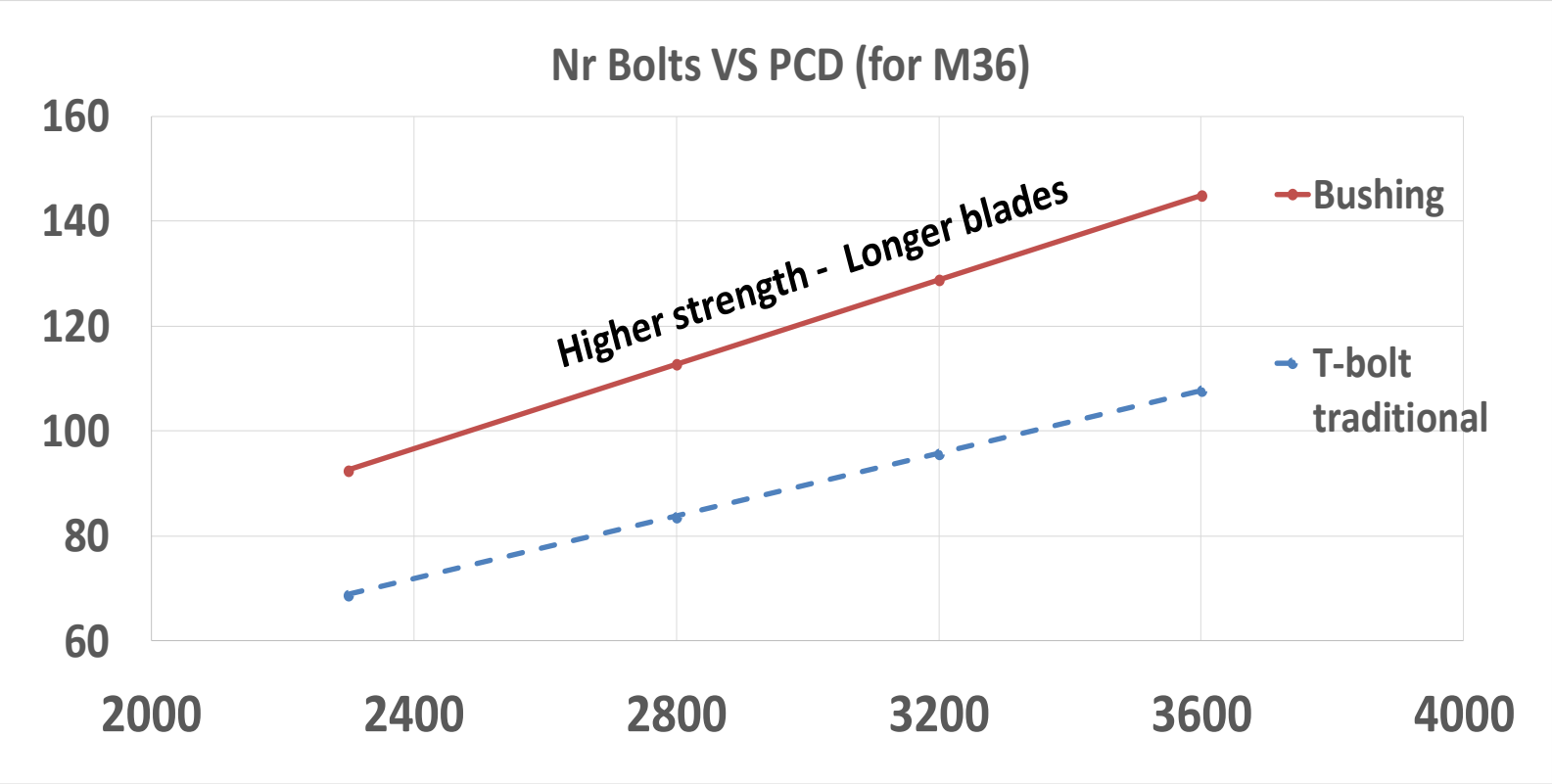
Technology complies with:
- GL2010
- DNVGL-ST-0376 (2015)
- IEC61400-5 (2020)

Bushing Technology



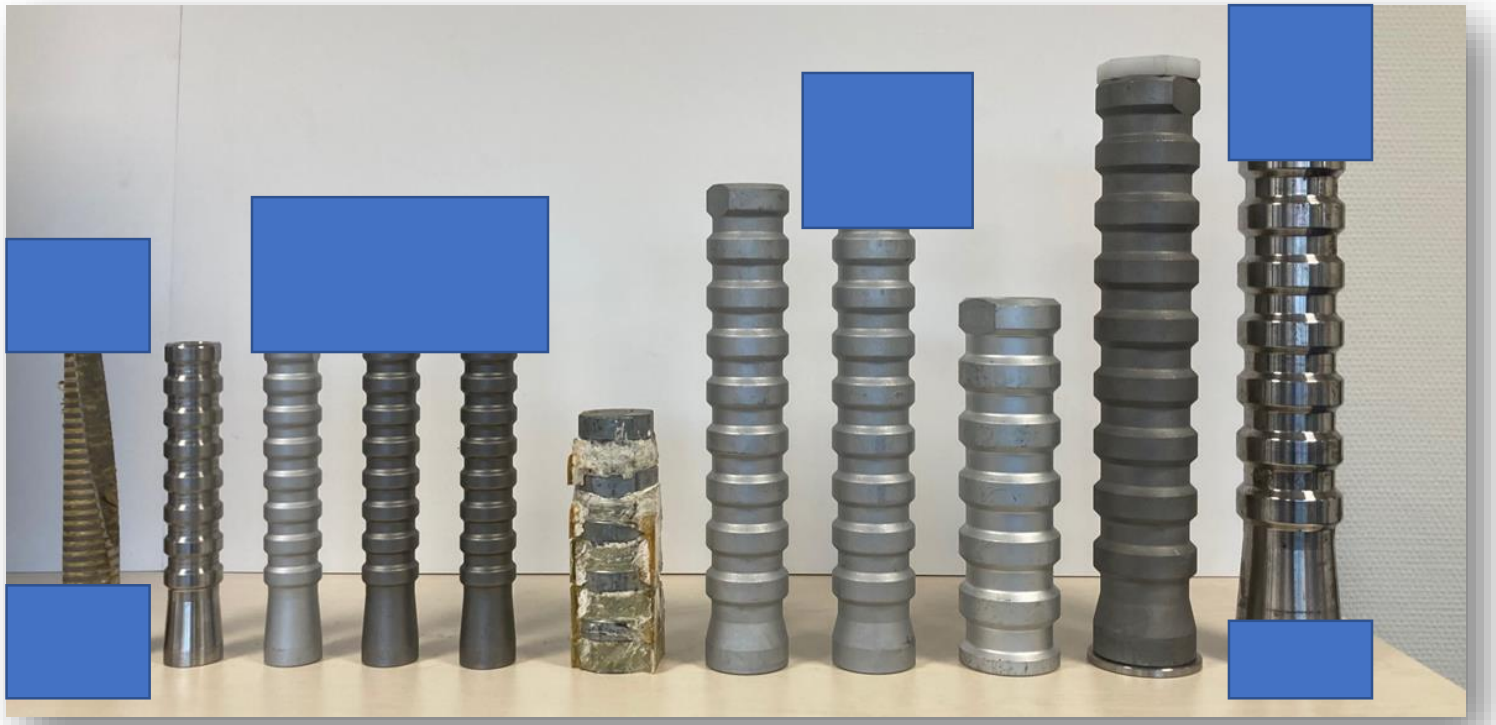
3MW root

Bushing Technology

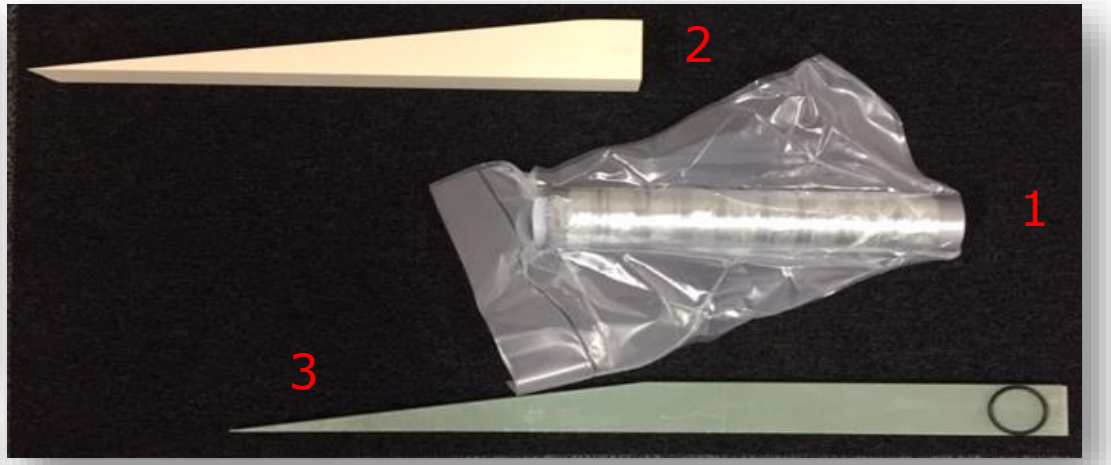


Type of Bushing to Use

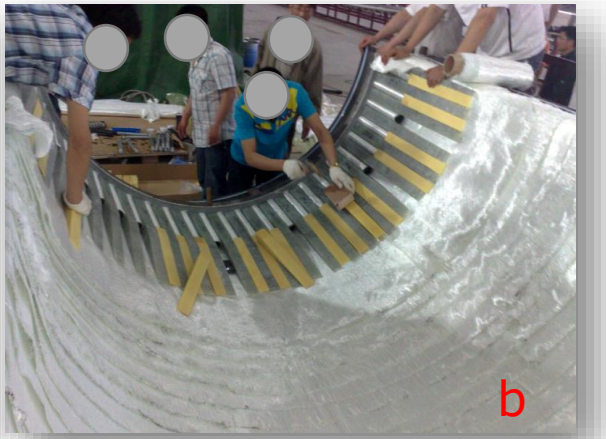
M20	300kN
M30	580kN
M30+	700kN
M36	800kN
M36+	Competitor M42 situation

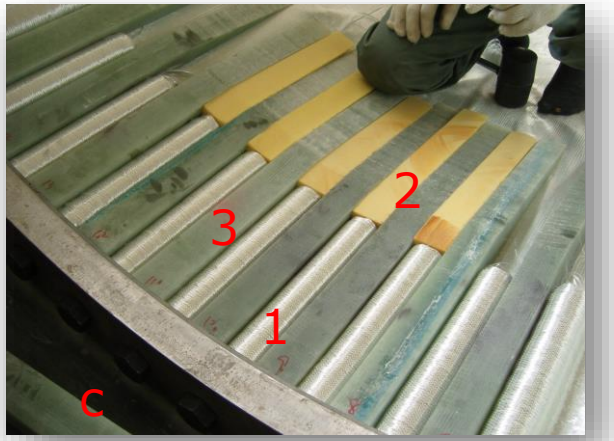


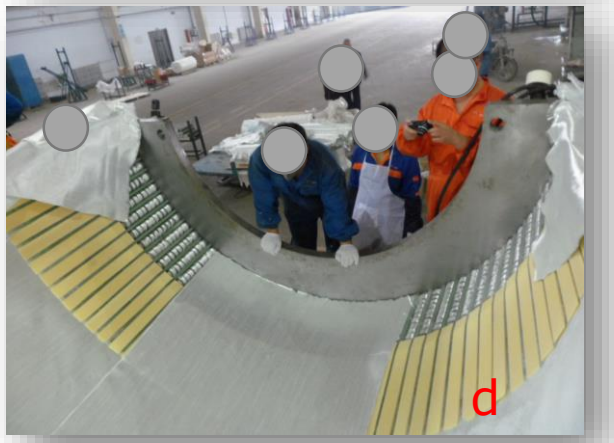
How does the We4Ce bushing work?

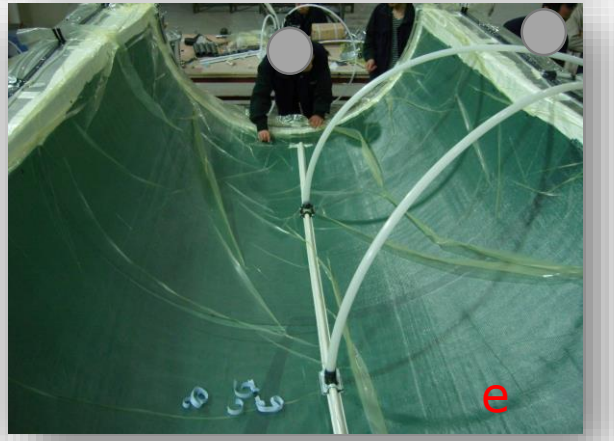


Bushing Technology in the Main Mould



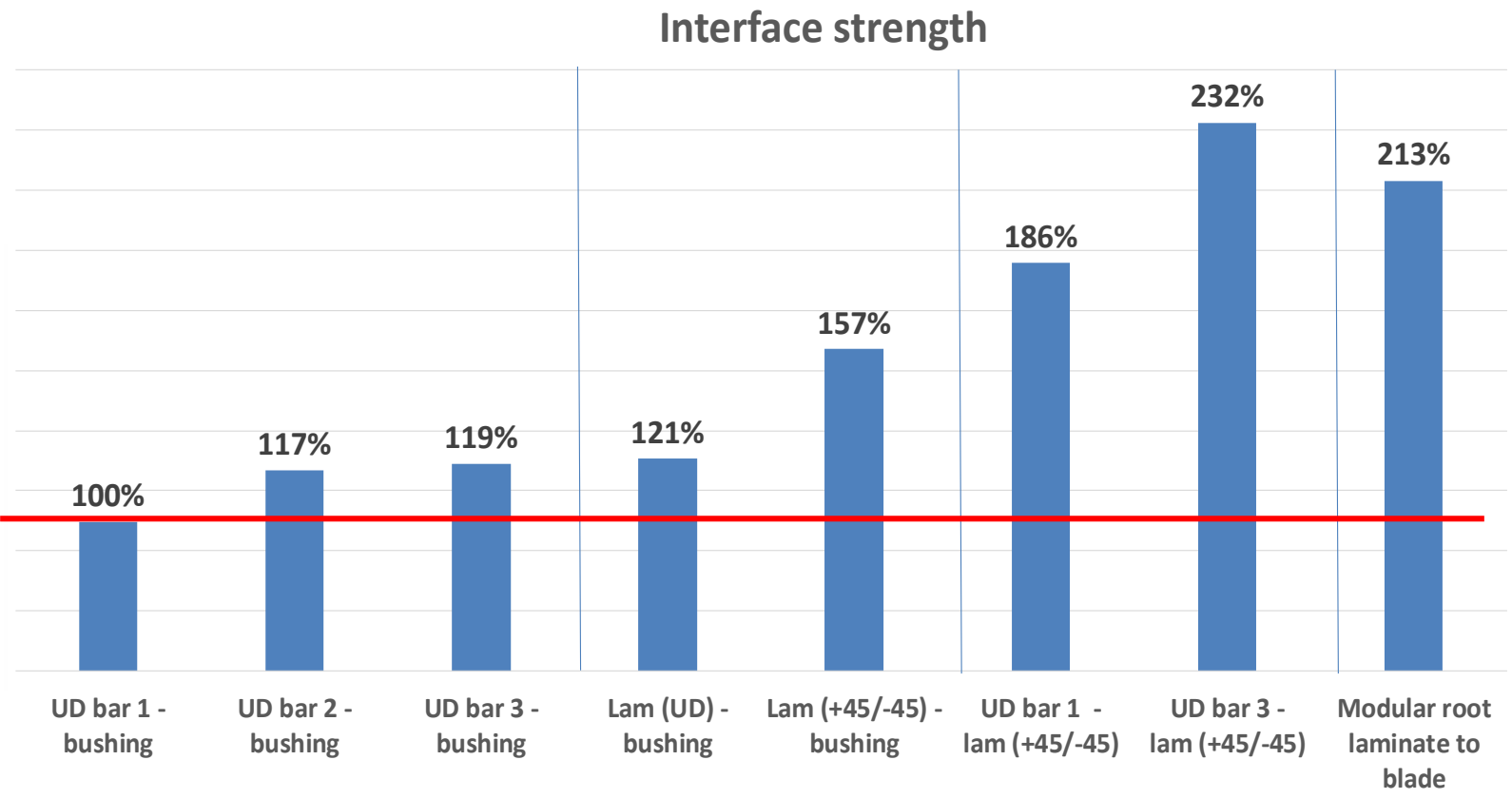


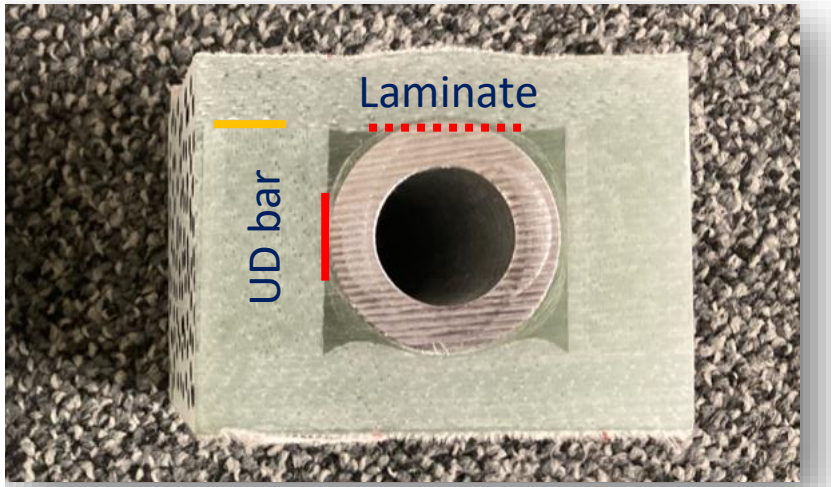




Strength Drivers

- ***Resin system and the infusion quality***
- ***Root laminate stiffness***
- ***Bushing design with interface strength***





Cutted cross-section

WE4CE
THE ROTORBLADE SPECIALIST

What is our objective: Sub-component /M.A.R.S.* Technology license to use

*M : Modular
A : Adaptive
R : Root
S : Solution

Why to Choose for We4Ce Bushing Technology

- **Strong /safety level** *(conservative in aproach)* → **limited PCD from 75kW to 14MW**
- **Design values according GL2010, DNVGL-ST0376, IEC61400-5**
- **Technology accesable for SME** *(goal of our adaptive commercial model!)*
- **Track record for more than 13 year in services** *(>30.000 turbine)*

Thank you!

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