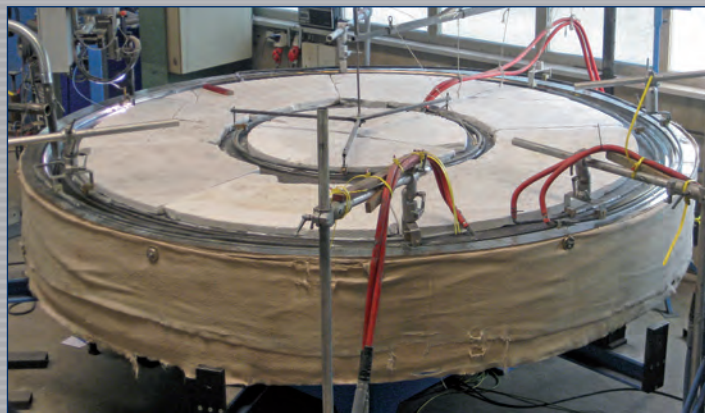
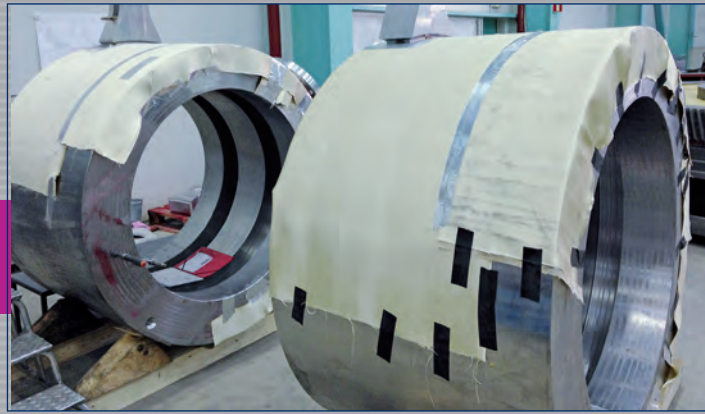


Welding Processes

- Hot-wire pulsed Gas Tungsten Arc [hp GTAW]
- Electro Slag Welding [ESW]
- Submerged Arc Welding [SAW]
- Shielded Metal Arc Welding (SMAW)
- Gas Metal Arc Welding (GMAW)
- Gas Tungsten Arc Welding (GTAW)

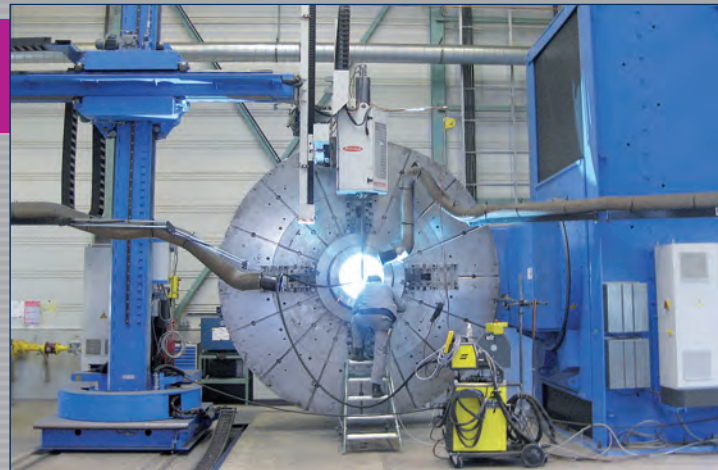


Fusion welding including buttering and cladding.

Challenges in Production Process, Innovation, R&D

Our Biggest Challenge is also our Biggest Opportunity

- Designing welding processes for base-material with extreme high Ceq
- Optimizing hardness HAZ and mechanical properties of Weld-Metal
- Meeting NACE requirements
- Designing and developing welding consumables for fusion welds [80-120 ksi]
- Designing heat treatment cycles improving strength and toughness for base material and Weld-Metal in cooperation with our special materials design department.



Contact:

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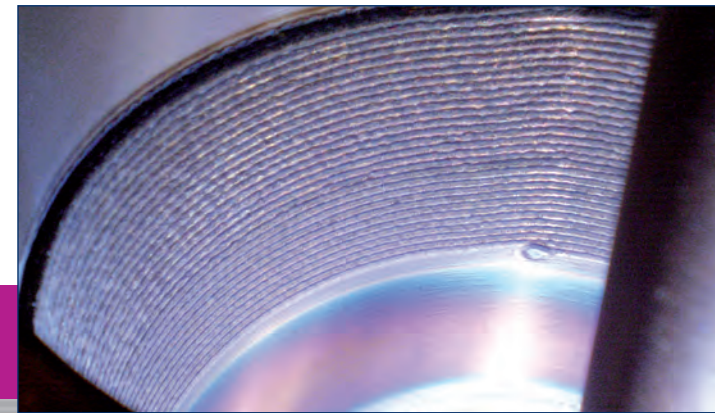


Nalbacher Druckhaus 10/15



THE BETTER CONNECTION
WELDING TECHNOLOGY

BRÜCK® GmbH
Your Partner for Solutions



Cladding



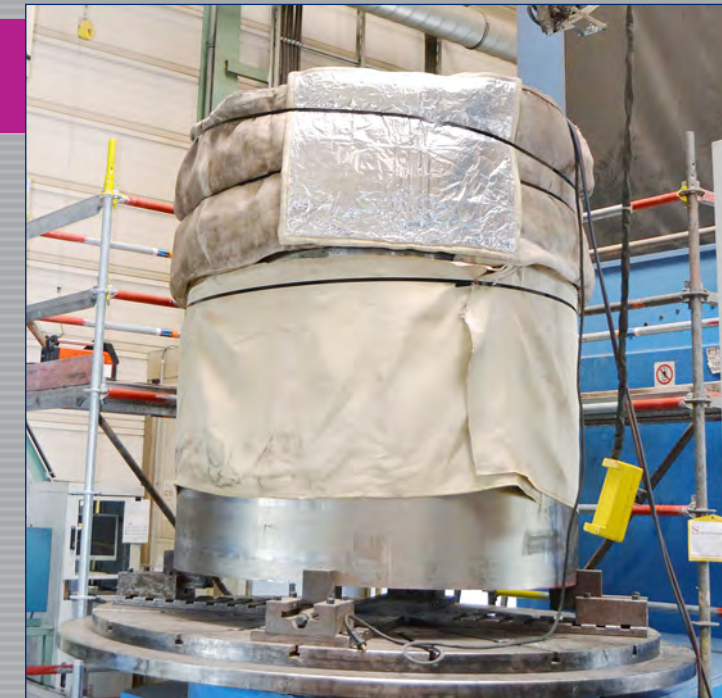
Fusion welding

Examples of our Capabilities
Our Experience - Your Benefit

Welding of Materials

- Carbon steels
- Low alloyed steels
- High strength carbon steels
- Carbon equivalent (Ceq) up to 0,96
- Austenitic stainless steels
- Martensitic stainless steels
- Duplex stainless steels
- Super Duplex stainless steels
- Non-ferrous nickel alloys

**Our expertise is Welding of Dissimilar
Materials**



Example of high strength carbon steel cladding using hp GTAW process with preheating

The Welding Technology Department was added to the portfolio of BRÜCK GmbH in 2006

Capacity

➤ **Qualified Manpower:**

- 3 shifts per day
- 5 days per week
- 30 qualified and certified welders/ operators

➤ **Machines:**

- 6 SAW/ ESW/ pGMAW [ESAB + Oerlikon]
- 7 hpGTAW [Polysoude + Fronius]
- 3 GTAW [manual]
- 4 GMAW [manual]

➤ **Manipulators (capacity):**

- 40 tons
- 20 tons
- 10 tons

➤ **Lifting capacity 50 tons**

➤ **Furnaces for PWHT**

- Ø 6.000 mm x 1.750 mm and 70 tons load capacity

Solution Provider

➤ **Core Competences**

of BRÜCK GmbH as solution provider

➤ **Knowledge & Know-How**

- Suitable welding processes for base-materials
- 3D metallurgy in base-materials
- Cooling speeds during forging and welding
- Welding of dissimilar materials
- Welding of Duplex and Martensitic steels
- Welding of steels with extreme high Ceq
- Influence of tempering and PWHT
- Consequences of PWHT
- Consequences of shrinkage after welding
- Required criteria for weld consumables
- Consequences of multi-pass welding
- Influence of pre-heating temperature on hardness and mechanical values
- Using simulation programs
- International codes
- Requirements for PQR's
- In-house 3rd Party
- Own laboratory for testing
- In-house NDE department

Final Machining Capabilities

Our company uses a wide range of modern, "State of the Art" machining equipment and can supply the clad and/or fusion welded products in final machined condition

Drilling – Milling – Turning – Boring



We are experienced in delivering products with zero-defect requirements of cladded (seal) surfaces.

