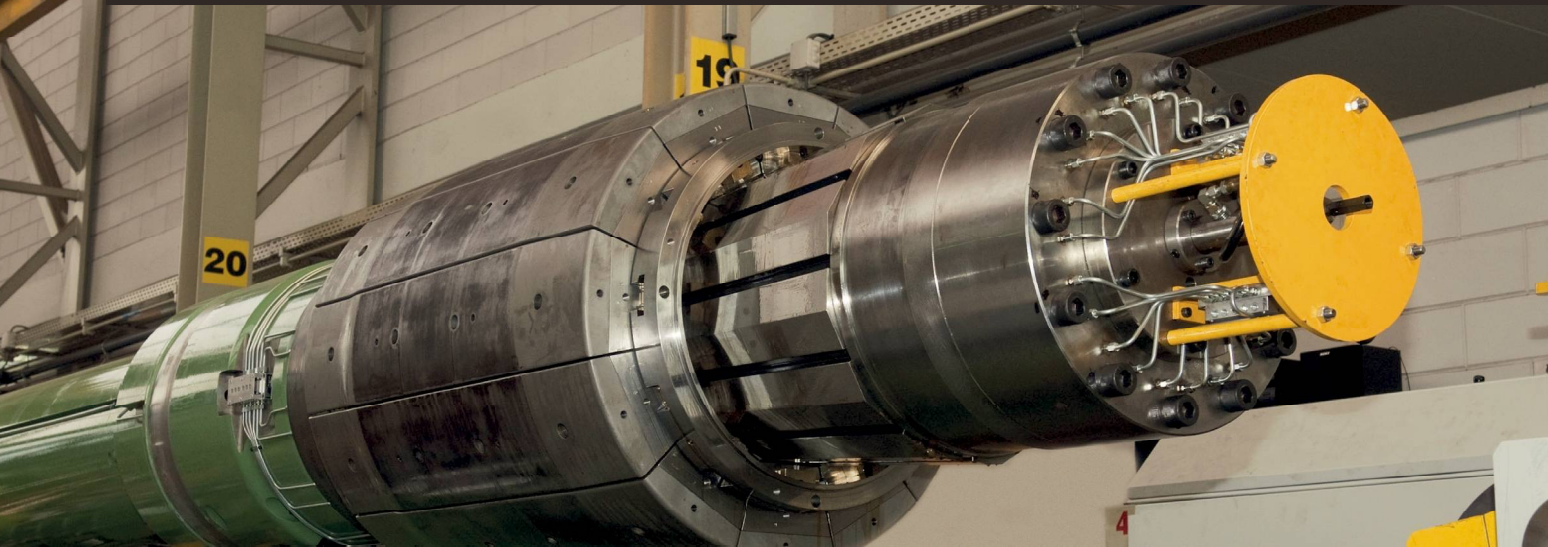


# Our Solution for CRA Lined Pipes

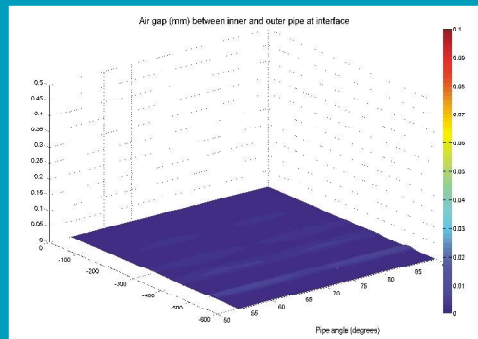
## Full Length Pipe Expander to Generate Mechanical Bonding



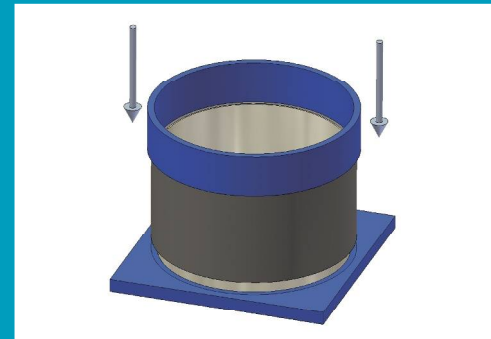
To achieve an optimal mechanical bonding (according to API 5 LD) the key elements are:



100% contact between CRA Liner and CS Backing pipe in longitudinal and circumferential direction by usage of Flexible Dies (Patent Pending)



Uniformity: Air gap distribution at the interface of inner and outer pipe. Minor air gaps which are less than 0,007mm!



Validated by Push Out Test

**Advantages of the Full Length Pipe Expander compared to other processes:**

- Optimum mechanical bonding for each pipe combination, due to diameter control
- Good economical solution
- No material waste

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