

MAT-HHFM Monitoring Meeting EFDA – CSU Garching, Feb 21 – 22, 2013

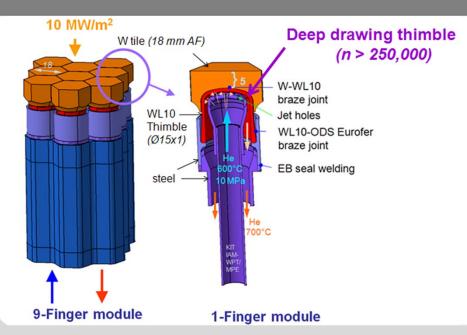
## WP12-MAT-01-HHFM-04-06/KIT/BS "Deep Drawing W Thimble"

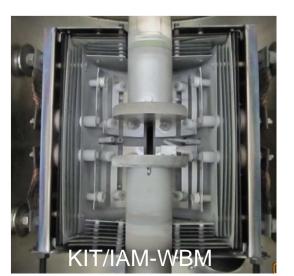
Reporting period: July 2012 - February 2013

Principal Investigator: P. Norajitra (KIT)

With participations of: W. Basuki , L. Spatafora

KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT)







Ø28 mm sheet, 700°C, path-controlled ~1 µm/s

## Last deep drawing tests results

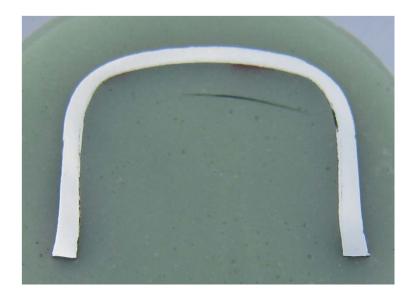
W. Basuki, P. Norajitra, L. Spatafora, EFDA MON MTG, Ljubljana, June 2012





h = ~12 mm

Best result achieved: Ø 28, 700 °C, new flat tool



Sample EDM cut in half and prepared

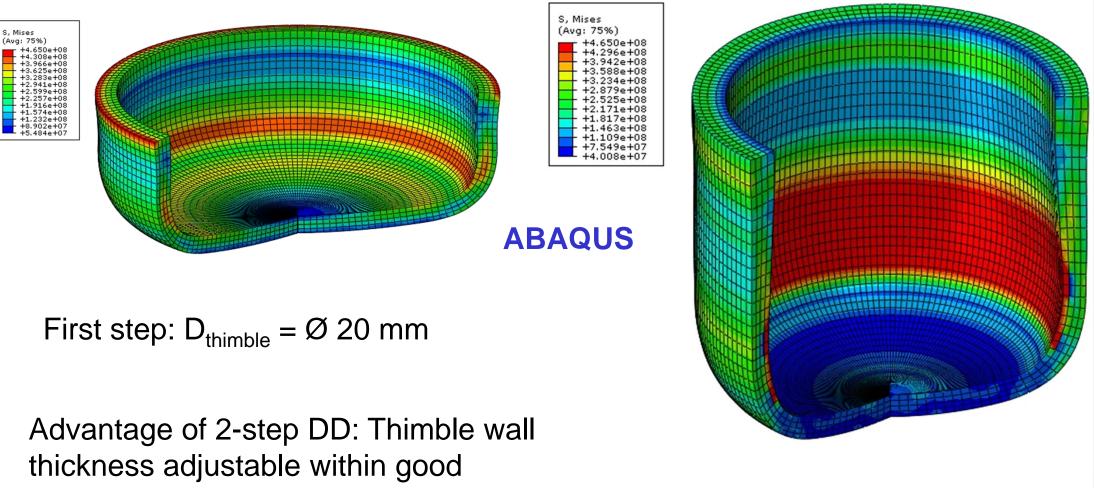
2 P. Norajitra, EFDA MON MTG, Garching, Feb 21 – 22, 2013





## Optimisation: Computer simulation of 2-step deep drawing (DD) with W sheet, Ø 30 mm, 1 mm, @T = 1000 °C



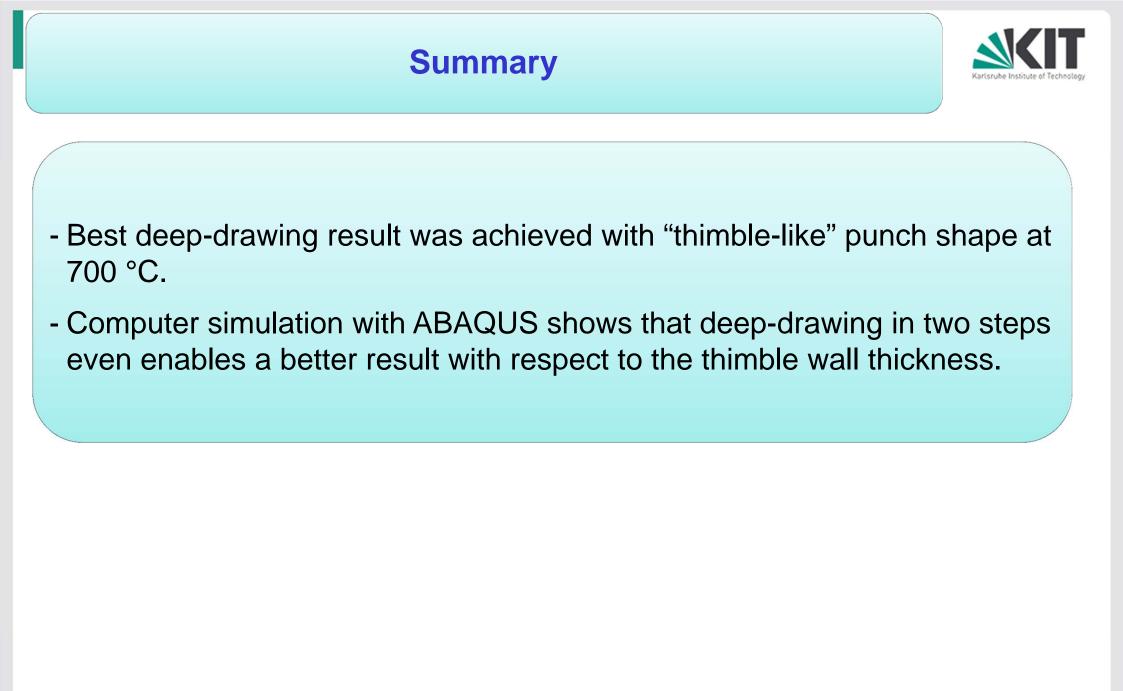


## Second step: $D_{thimble} = \emptyset$ 15 mm

tolerance







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