Analysis of boiler performance with FTR Portable system

- This activity is performed as the first step of implementation of the FTR system on a power plant
- The work includes the following steps:
  1. Removing of thermal insulation and Preparation of the opening for FTR sensor in 3-4 chosen locations on the furnace wall
  2. Attachment of installation channels in those locations (the channels will be fabricated by AMS according to actual dimensions of the water wall tubes)
  3. Closing of thermal insulation around the installation channels
  4. Performance of measurements of Fouling Thickness and Reflectivity using Portable FTR system (FTR sensor will be replaced between all chosen locations).
  5. Collection of boiler operation data
  6. Modeling of boiler performance and recommendation for improvement

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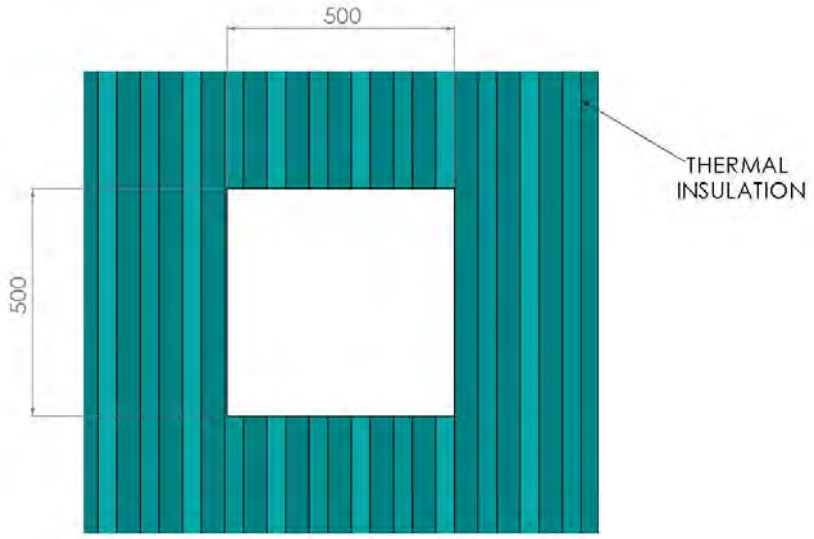
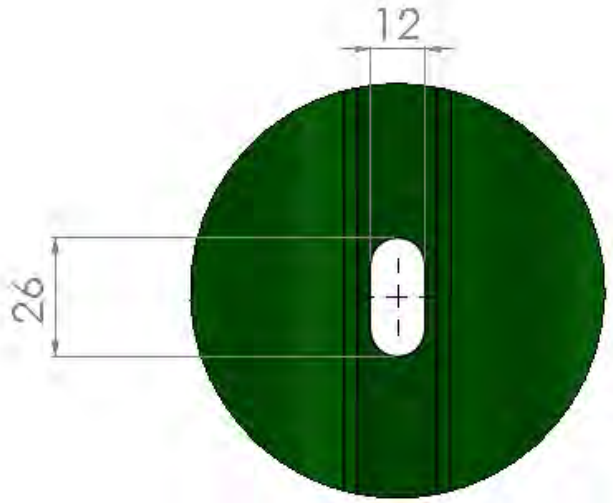
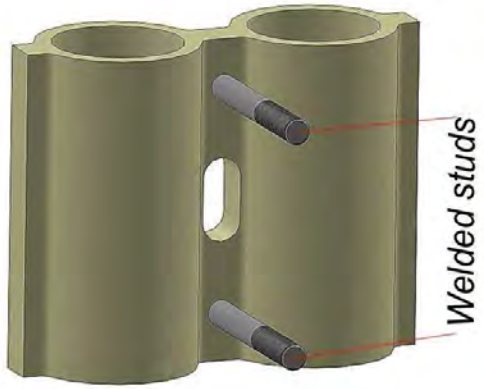
Step 1: Removing of thermal insulation and Preparation of the opening for FTR sensor in 3-4 chosen locations on the furnace wall



STEP1: Remove of 500mm x 500mm insulation



Opening in the membrane



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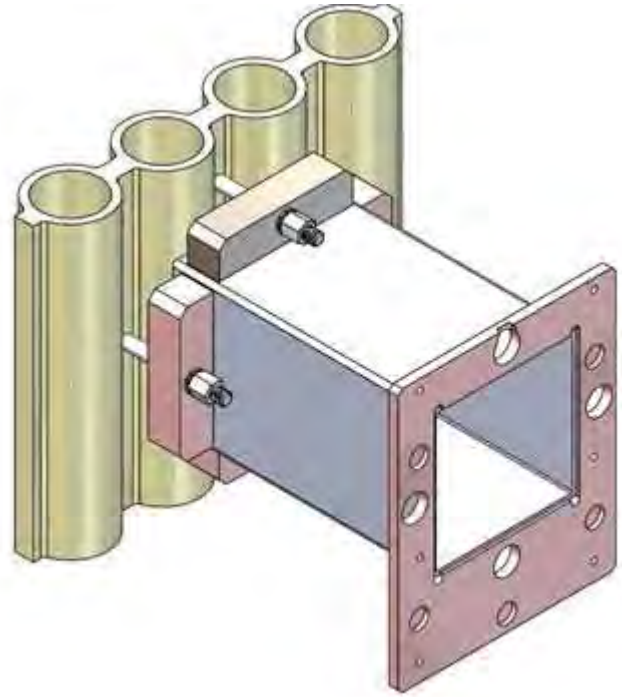
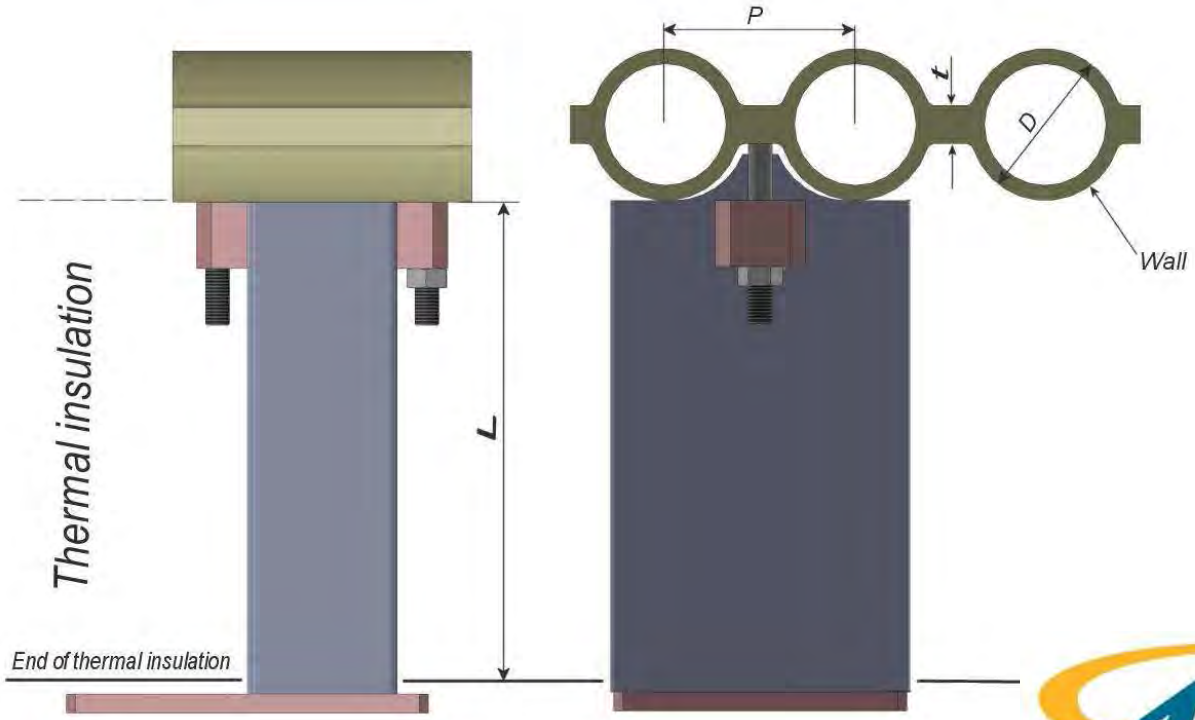
Step 2: Attachment of installation channels in those locations (the channels will be fabricated by AMS according to actual dimensions of the water wall tubes)





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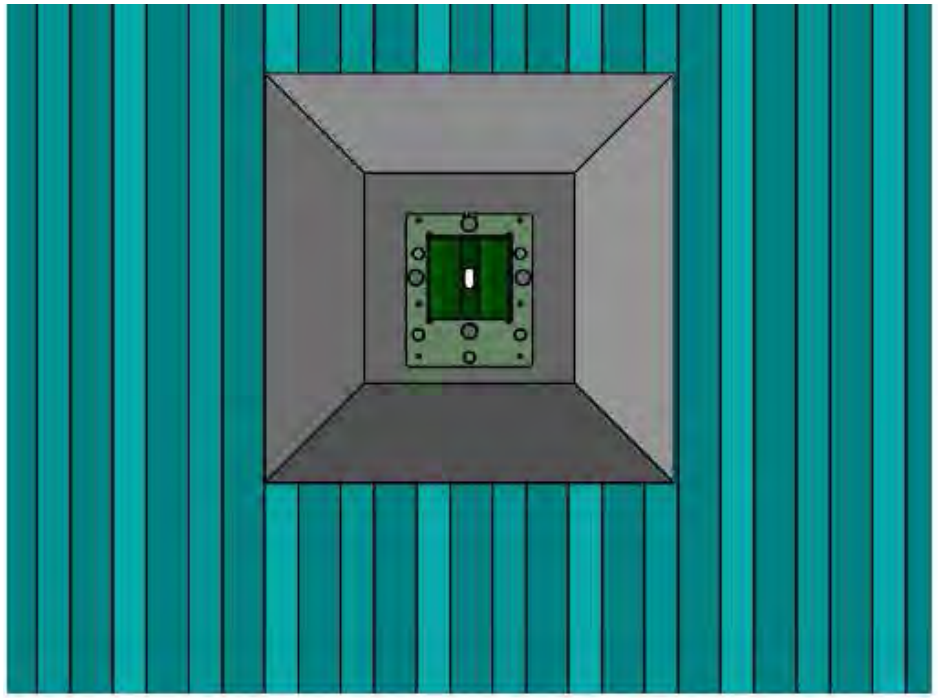
Step 3: Closing of thermal insulation around the installation channels



STEP3: Installation of the shell around the casing

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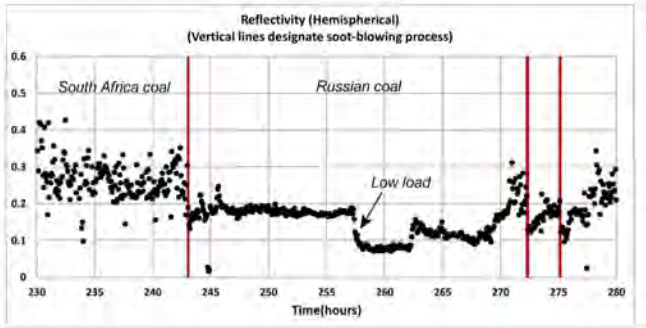
Step4: Performance of measurements of Fouling Thickness and Reflectivity using Portable FTR system (FTR sensor will be replaced between all chosen locations).

- Portable FTR includes FTR sensor, control panel of electronics circuitry, portable compressor, air filters and Laptop computer with proper software.
- Measurements of Fouling Thickness and Reflectivity performed in 3-4 chosen locations on the furnace wall while FTR sensor moves in and out of the operated furnace through small openings in the membrane between water tubes
- The measurement data are used in **Analysis aiming in** estimation of:

  (i) actual cleanliness of the furnace

  (ii) impact of furnace cleaning on the boiler performance;

  (iii) ability of the unit for automatic optimization of cleaning



Q/A

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