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P2.087 Final design and structural analysis of ITER PF5 & 6 coil assembly tools

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PF5 and 6 coil assembly tool is used to transfer, support and align the PF 5 & 6 coil. The tools are comprised of PF5 lifting adapters, PF5 temporary support and align units, PF6 lifting adapters, and PF6 temporary support and align unit. PF 5 and 6 coil will be lifted from assembly hall to the tokamak pit using PF 5 and 6 lifting adapter. Then, PF5 and 6 will be temporarily placed on their temporary support and align unit. These temporary supports will be used until completion of sector assembly in tokamak pit. Then, PF5 and 6 coil will be aligned using the hydraulic jacks to their final position.
The structural analysis has been performed to assess the structural integrity of the tools according to their design criteria and EN standards. PF5 and 6 lifting adapters are classified as the lifting accessory (EN 13155). PF5 and 6 temporary support and align units are classified as the steel structure (EN 1993) and the lifting table (EN 1570-1) as well, since the tools have functions of supporting and aligning. The structural stresses of the tools are lower than the allowable stress. This paper provides the design descriptions and the structural analysis results on PF 5 and 6 coil assembly tools

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