
	Manufacturing, testing and supply of vacuum vessels for HNB3 (Beam Line Vessel and Beam Source Vessel) and DNB <i>Annexure 12: Engineering Analysis</i>	INDUS Ref No II-BBNN6B9- v1.1
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1. Scope

This appendix covers the requirements for engineering analysis in support of design of the jigs, fixtures and handling tools required for manufacturing, inspection, testing and transportation of DNB Vessel and HNB3 Vessel. This appendix also covers the requirements in case of design changes and non-conformance observed during the manufacturing.

Calculations and computer codes implemented for the design and analysis shall be qualified in accordance with internal procedures of the Bidder. The proof of the qualification shall be submitted to ITER-India for approval.

For stress calculations, finite element software shall be used. The FEA software used should be agreed with ITER-India / IO.

2. Transportation and handling analysis


Design of jigs, fixtures and transportation frame used for handling of equipment's shall be justified by finite element analysis 35BVV3_v2_1 under load conditions associated with the transportation plan described in Annexure 13: Labelling, Packing, Handling and Shipping

3. Analysis in support of Design Change Request / Deviation request

If design changes / deviation from any of the applicable documents (technical specification / Drawings / 3D CAD / IVH / RCC-MR / EN standards / as specified in the list of applicable documents of Section B and its annexures), are requested by the Bidder, the Bidder shall assess the impact on the DNB Vessel and HNB3 Vessel due to design changes and provide ITER-India and IO with details of the design modifications (drawings, reports). ITER-India and IO shall assess the proposed modifications for its design impact. If necessary, Bidder shall perform the finite element analysis 35BVV3_v2_1 as per applicable load conditions covered in the load specification document (ITER_D_3R7A9D - Load Specification for DNB Vessel; ITER_D_33BQXF - Load Specification for HNB vessel v5.1) . The same shall be submitted along with the analysis files to ITER-India and IO for approval.

4. Analysis in support of Non-conformance

In case of non-conformance to the DNB Vessel and HNB3 Vessel with respect to any of the applicable documents (technical specification / Drawings / 3D CAD/ IVH / RCC-MR / EN standards / as specified in the list of applicable documents of Section B and its annexures, the Bidder shall assess the impact of Non Conformance on DNB Vessel and HNB3 Vessel design. The Bidder shall show justification following the design rules of RCC-

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MR 2007, class 2 components. ITER-India and IO shall assess the Non Conformance and its justification for its acceptance. If necessary, Bidder shall perform the finite element analysis (35BVV3_v2_1 (attachment to be provided along with tech spec) as per applicable load conditions covered in the load specification document (ITER_D_3R7A9D - Load Specification for DNB Vessel; ITER_D_33BQXF - Load Specification for HNB vessel v5.1). The same shall be submitted along with the analysis files to ITER-India and IO for approval.