IDM UID
FR3HBG
VERSION CREATED ON / VERSION / STATUS
27 Mar 2026 / 1.1 / Approved
EXTERNAL REFERENCE / VERSION

Technical Specifications (In-Cash Procurement)

SCC_lifting_frame_manufacturing-simplified-technical-specification

This document presents the scope of the contract and a summary of the technical requirements of the full technical specification for the procurement of the SCC lifting frame

china eu india japan korea russia usa

Procurement of ITER SCC lifting Frames

Summary of Technical Specification
(ITER_D_ FR3HBG_v1.1)

1 Purpose

The purpose of this contract is the Procurement of the ITER SCC lifting Frame, which involves the manufacture and assembly by welding of several 15 mm plates and 200x200 square tube into a welded mechanical assembly measuring 8.8 m x 7.4 m x 1.9 m, with an estimated mass of 9.5T. A total of 1 to 3 lifting frames needs to be purchased.

The delivery date is expected for October 2027.

The Lifting frame is mainly made of carbon steel (s235) composed of:

- A welded steel frame. 4120x8823x1870mm, 8351kg
- 2 removable arms used for horizontal lifting. ~2400x1700x300, 295kg each.
- 4 tool-to-coil clamps. ~430x400x200mm, 140kg each
- 6 lifting rings
- 4 brackets interfacing with the TSB

The IO is responsible for providing to the Supplier the design of the System, in accordance with this technical specification and related documents.

The Supplier then assumes responsibility for the manufacturing design, preparing the manufacturing and test/inspection campaign in accordance with the ITER Manufacturing Readiness Review Guidelines.

The contract execution can be divided into 3 main tasks:

- Task 1: Preparation for manufacturing and procurement
- Task 2: Procurement, manufacture, assembly, factory acceptance tests (FAT)
- Task 3: Delivery and Final Acceptance.

2 Scope of Work

Task 1: Manufacturing and procurement preparation

This part of the contract consists in reviewing the final design proposed by IO and update it if needed based on the manufacturing and inspection process. The overall dimensions shall remain the same, but the welding configuration could be adjusted to ensure NDT feasibility.

All the documentation required for the Manufacturing Readiness Review (QP, MIP, Welding Procedures Specification, NDT procedures, Material procurement list…) shall be done during this primary phase of the contract.

Phase 1 completed after the Manufacturing Readiness Review approval.

Phase 2: manufacture, assembly, factory acceptance tests (FAT)

This second phase of the contract shall start by the material procurement just after the MRR approval.

All the structures to be procured shall be manufactured and tested according to the approved MIP. In case of manufacturing issue, a dedicated Non Conformity Report shall be raised.

Finally, the manufactured structures shall have to pass the factory acceptance tests, including a load test, and the CE Conformity of the manufactured and tested product shall be certified by an accredited third party (IO provide the design and the structural assessment).

All the documentation required for the Delivery Readiness Review (release note, packing list, manufacturing dossier, MIP, control reports…) shall be prepared.

Phase 2 is completed by the Delivery Readiness Review.

Phase 3: Delivery and Final Acceptance

After the DRR, the product shall be labelled, cleaned and packed for transportation to IO site.

Due to the size of the welded structure, the road transportation can not be done with a conventional truck and is categorized as Conventional Exceptional Load (CEL).

After reception of the structures to the IO site, Site Acceptance Tests (SAT) shall be done for checking the delivery and after the handover of the full documentation, the contract shall be fully fulfilled.

Phase 3 completed after the SAT is approved.

3 Supply Description

The SCC Lifting Frame shall handle the ITER Side Corrections coils (SCC) from the reception in horizontal position on a transportation frame to the final assembly position in vertical in the PIT. The SCC is a 8x7m square coil, terminated by a box (TSB) at the bottom. The lifting frame shall allow:

a) Rigidly connect the SCC Lifting Frame to the SCC above the transportation frame (coil in horizontal position) in the assembly hall
b) Upend SCC coil to vertical position
c) Lowering and positioning of SCC in Pit.
d) Installation of lower horizontal and vertical cover clamps
e) Disconnect the Lifting frame from the SCC and move it out of the PIT.

The lifting frame has bene design for a payload of 6 tons, connected at 4 points by the tool-to-clamp. Depending on the number of lifting frames purchased, they will be used between 2 to 6 nominally.

The main component to manufacture is the welded steel frame, which includes the tool-to-coil clamps. 2 removable arms to support the coils during the upending and 4 brackets supporting the TSB are bolted to that frame.

The 3D model will be provided (CATIA native format) with the open tender documentation. The assembly drawing (079888 - LIFTING_FRAME - Drawing , ITER doc ID FTBX3B) is attached., which shows the quantity of items per tool, the dimensions, weight, materials and welds. The list of items (Table 1) and pictures (Figure 2) are extracted from this drawing.

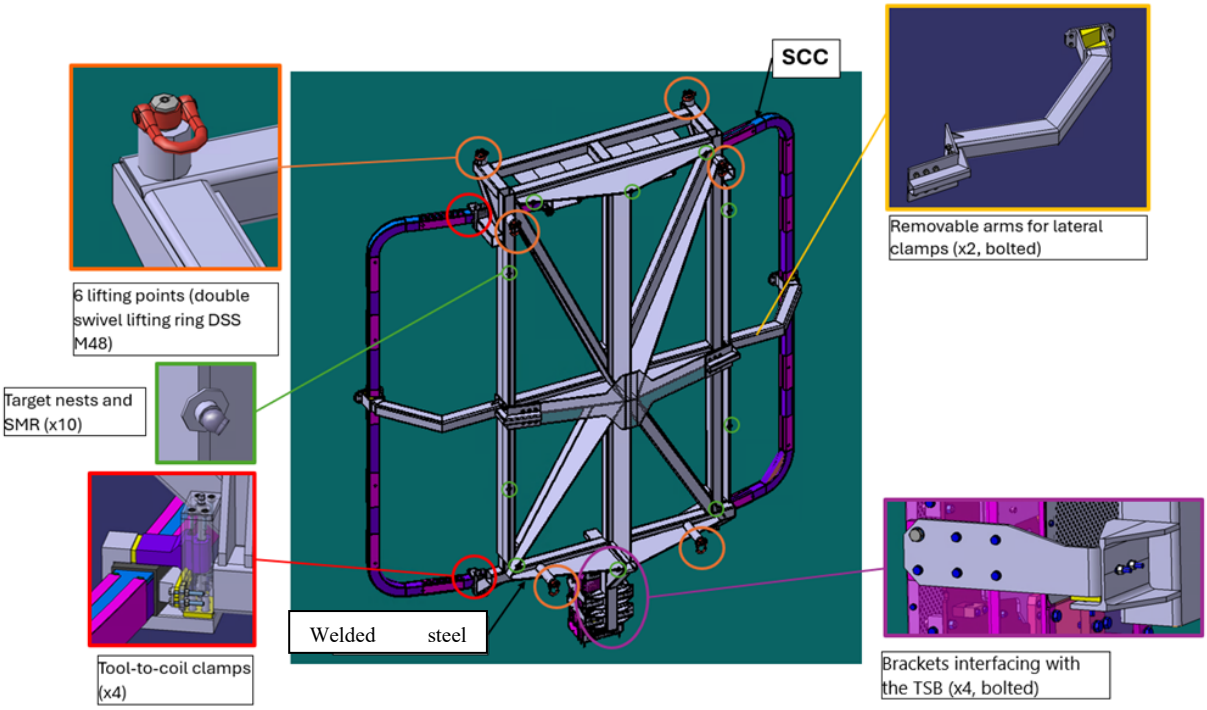

Figure 1: Overview lifting frame

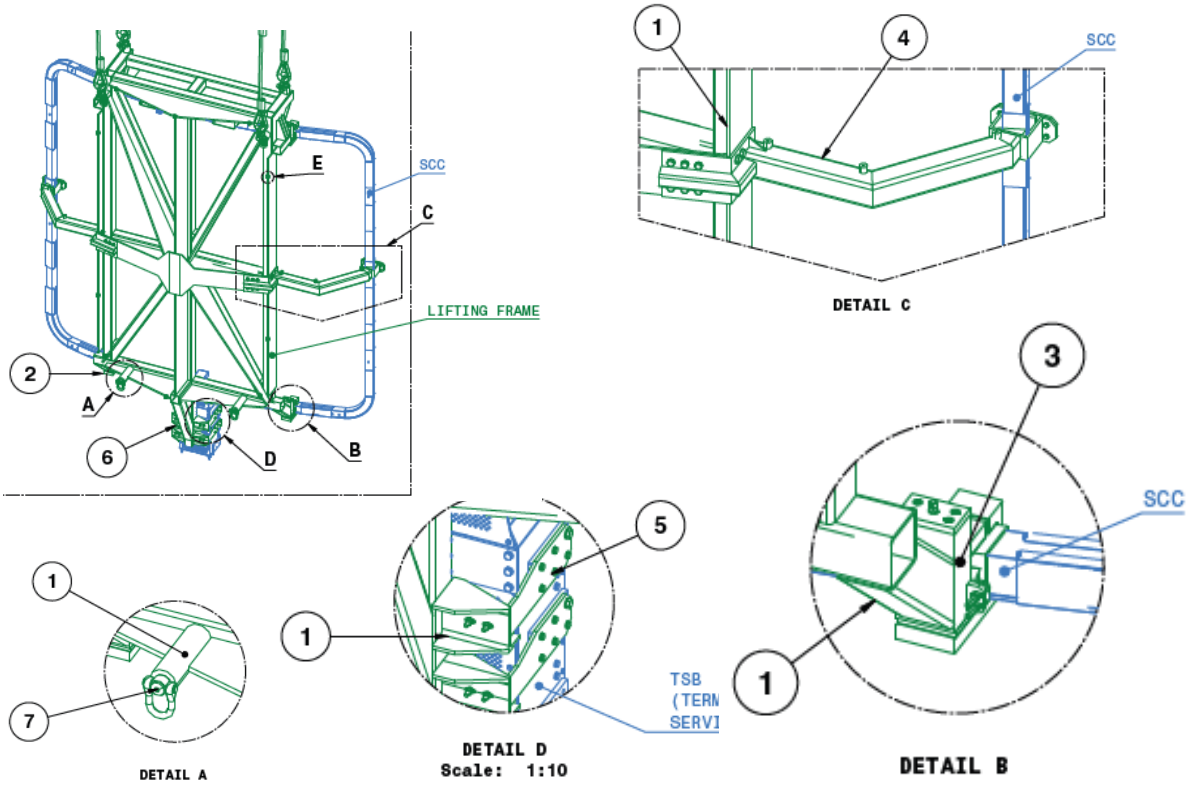

Figure 2: The components of the lifting frame

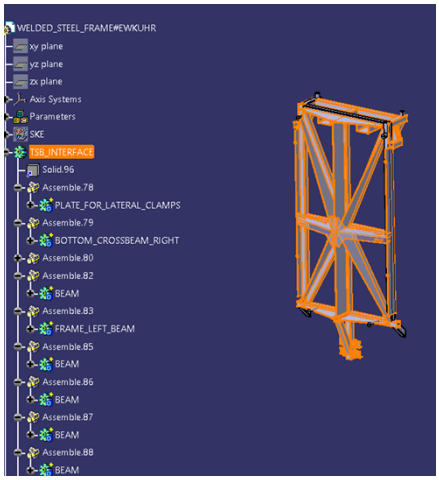

Figure 3: 3D model of the welded structure

Table 1 – Quantities for the different components

Item No.	Part Number	Type	Quantity	Weight
1	WELDED_STEEL_FRAME#EWKUHR	CATPart	1	8163.457kg
2	TOOL_CLAMP_LEFT_SIDE_ASSY#WP#E8ANUG	CATProduct	2	141.261kg
3	TOOL_CLAMP_RIGHT_SIDE_SYMMETRY_ASSY#WP#EJ7ZFP	CATProduct	2	141.261kg
4	LATERAL_REMOVABLE_BEAM_&_CLAMP_ASSY#WP#EJ8UX4	CATProduct	2	287.771kg
5	TSB_CONNECTION_RIGHT_ASSY#WP#F2EQRR	CATProduct	2	28.905kg
6	TSB_CONNECTION_LEFT_SYMMETRY_ASSY#WP#F7PSVH	CATProduct	2	28.905kg
7	CODIPRO_DSS_M48_-_0#W6FS5Q	CATPart	6	11kg

All materials are carbon steel excepted few components (trapezoidal nuts and 2 bearing made of bronze and a trapezoidal screw 42CrMo4+QT) in the tool-to-coil clamps that rely on a the trapezoidal screw moving the tightening jaws in a guiding rail for the clamping. Tolerances and surface treatment will be discussed with the contractor.

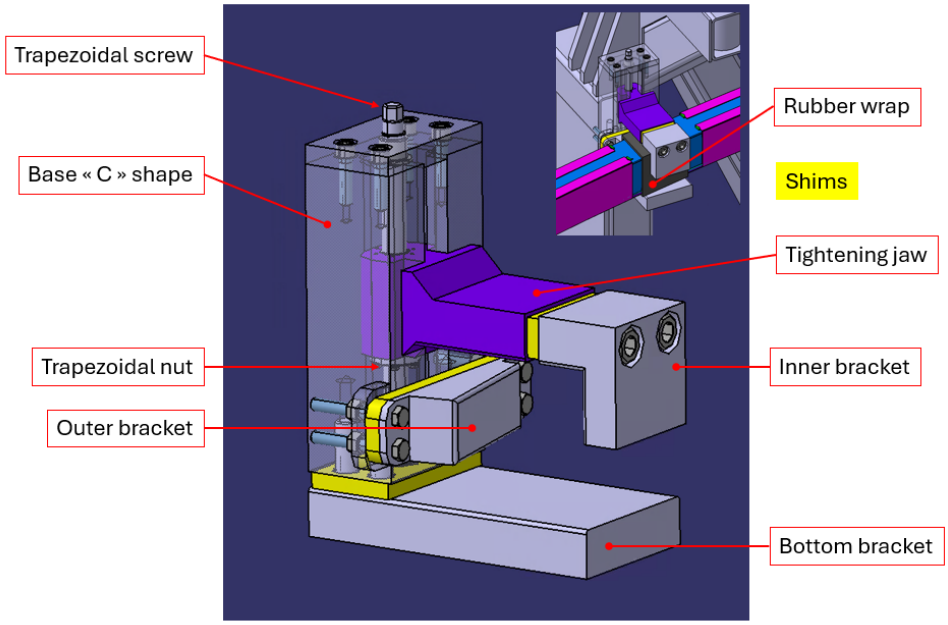

Figure 4: Details of the tool-to-clamp

4 Experience Requirements

The ITER Organization is looking for Contractor with demonstrated experience delivering lifting tool and large welded structure, with manufacturing processes including:

- Machining,
- Welding process,
- Volumic Non Destructive Examination: Radiographic testing and/or Phased Array
- CE certification

Experience under a previous ITER contract is considered an asset.

The Tenderer shall have and maintain a valid ISO 9001 certification and shall have the duty to verify and document the equivalent quality level of all its subcontractors and consultants.

5 Award of the Contract

Suitable teaming arrangements for multiple companies are possible, where appropriate, to enhance the offering of the tenderer.

The language used at ITER is English. A fluent professional level is required (spoken and written English) with the Contractor liaising with ITER.

6 Candidature – Expression of Interest

Candidature is open to all companies participating either individually or in a grouping (consortium) which is established in an ITER Member State or Switzerland. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally -- but formalized with engagement letters -- for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

The consortia will be assessed as a whole. Consortia cannot be modified later without the prior approval of the ITER Organization.

7 Timetable for the Tender Process

The tentative schedule for this tender process is as follows:

Invitation for Open Tender	*April 2026*
Tender Submission	*June2026*
Contract signature	*August 2026*