



## OVERVIEW OF ABS CONTAINER CERTIFICATION PROCESS

### GENERAL

1. Application (submitted by the Client)
2. Design Review (performed and issued by an ABS Engineer)
3. Prototype Testing (witnessed and issued by an ABS Inspector)
  - a. Prototype Test
  - b. Longitudinal Rail Impact
    - i. TC IMPACT: Performed at TC approved facility
4. Factory Approval (performed and issued by an ABS Inspector)
5. Additional Units (performed by an ABS Inspector)
  - a. Final Inspection and Certification (performed and issued by an ABS Inspector)

### APPLICATION

The client is to submit an ABS application with drawings and associated documentation.

The application may be submitted as a New Design, Revision, Modification or Additional Unit. A New Design, Revision to an existing ABS approved design or Modification of a container will require an ABS Engineer to review the drawings, specifications and associated documentation to the Rules, regulations and standards requested on the application. A New Design or Revision to an existing design may include multiple model numbers which will be evaluated by the ABS Engineer on a case-by-case basis. An Additional Unit application will be processed after ABS has verified that there have been absolutely no changes to the already ABS approved design.

Containers are to be identified on the application by a unique serial number. Applications submitted for a New Design or Revision are not required to indicate a container by serial number if the Client is in the design phase but will be required to submit an application as an Additional Unit when the prototype unit and additional units are to be fabricated and certified.

The client may request certification of individual or a batch of containers of a design, but the batch is to be limited to an expected number of containers to be built within a one-year period. The application will expire after a years' time regardless of whether the number of containers indicated on the application have been manufactured, and a new application will be required.

### NEW DESIGN, REVISION OR MODIFICATION

Upon receipt of a completed application for a New Design or Modification of an existing design, ABS will assign an ABS Design Type Number as a unique ABS identifier for the design.

A request for a revision to an existing ABS approved design will retain the ABS Design Type Number issued by ABS during the initial approval of the design.

- **Modification:** the process of modifying an existing container with existing verifiable certifications. A modification will require a new ABS Design Type to be issued.
- **Revision:** the process of changing an existing design in which the previous ABS approved container arrangement will no longer be manufactured. Submission to incorporate additional commodities and/or variations of equipment such as Pressure Relief Devices and Service equipment are to be considered a revision to the design. A Revision will not require a new ABS Design Type to be issued. If the previous ABS approved container arrangement will continue to be manufactured, the submittal should be submitted as a New Design.

## **DESIGN REVIEW**

The submittal will be assigned to an ABS Engineer who will perform a design review of the submitted drawings, calculations, specifications, etc. in accordance with the requested certifications indicated on the application. Once the engineering review has been completed, the engineer will issue an ABS Design Review Letter with a Test Agenda attached.

The ABS Engineer will determine during the review process whether the Revision or Modification will require additional testing. If additional testing is required, it will be specified on the Test Agenda attached to the ABS Design Review Letter.

## **PROTOTYPE TESTING**

The client is to fabricate a container to the approved ABS drawings under the surveillance of an ABS Inspector. At the completion of the prototype unit, an ABS Inspector will complete an ABS Container Statement of Fact which is to travel with the unit to the prototype testing facility.

The prototype test is a testing-based validation of the design as well as a validation of the quality control procedures in place on the production line.

Please note that corner castings are to be traceable to the heat from which they are produced and have a chemical composition, mechanical properties and testing documentation which meets the requirements of ISO 1161.

The client is to test the container in accordance with the Test Agenda with a qualified ABS Inspector present in accordance with ABS procedure. Upon a successful prototype test, the inspector will issue an ABS Prototype Test Certificate. The ABS Container Test Report is available to assist the ABS Inspector and document the results of the test.

The prototype test and longitudinal rail impact test will most likely be performed at separate locations.

Note: if the container is to be marked "TC IMPACT APPROVED" the unit must be prototype tested at a facility approved by Transport Canada. The list of facilities currently (February 27, 2020) registered for the purposes of conducting the impact test is:

- National Society of French Railroads (SNCF) Test Centre, Tergnier, France (CNEST)
- National Research Council, Ottawa, Canada
- Transnet Freight Rail, Pretoria, South Africa
- TÜV SÜD Rail GmbH, Görlitz, Germany
- CRRC Qiqihar Rolling Stock Co., Ltd., Qiqihar, China
- CRCC (Qingdao) Vehicle Inspection Station Co., Ltd., Qingdao, Shandong Province, China

If the prototype unit successfully passes all tests without any damage or deformations, the unit is eligible to receive an ABS Production certificate, AB stamp on the data plate and ABS emblem based on the Statement of Fact from the attending Inspector at the manufacturing facility.

## **FACTORY APPROVAL**

The client is to schedule an audit of the manufacturing facility. The inspector is to obtain a copy of the manufacturing facility's quality manual and have reviewed the manual prior to arrival at the facility to perform the audit. The audit is to verify that the manufacturing procedure and supporting operations identified in the manual are successfully implemented and operational in the facility. Upon a successful audit, the inspector will issue an ABS Factory Approval Certificate.

Note: if manufacturing is to be performed in multiple locations, each location is to be independently audited.

The audit is also an opportune time to hold a kick-off meeting where the inspector will verify welder qualifications, material handling and identify hold points for inspection during production.

## **ADDITIONAL UNITS**

Once the design has been approved by ABS, the manufacturer can proceed with production and the ABS Inspector can certify containers produced under the ABS Factory Approval. The inspection regime and hold points determined during the kick-off meeting are to be strictly adhered to.

Each container produced under an ABS approved design and Factory Approval is to be identified on the ABS application by a unique serial number.

During final inspection, the manufacturer is to present an as-built dossier to the ABS Inspector for review. The documents are to include but are not limited to the following:

- Material certificates
- Material traceability reports (MTR) for primary structure
- Fabrication inspection reports
- Non-destructive testing (NDT) reports

- Production testing reports

Please note that corner castings are to be traceable to the heat from which they are produced and have a chemical composition, mechanical properties and testing documentation which meets the requirements of ISO 1161.

The ABS Inspector will issue an ABS Production Certificate indicating the container by serial number, stamp the container with an ABS stylized AB stamp and place the ABS Emblem on the container. The certificate may be produced from the Container Certificate Database (CCdb) for the container or batch of containers. The certificate can also be obtained from the ETQ system with approval from the Corp. Container Certification Dept. Manager.

