

FORM Q-106

RECOMMENDED FORM FOR QUALIFYING THE VESSEL DESIGN AND THE PROCEDURE SPECIFICATION USED IN FABRICATING BAG-MOLDED AND CENTRIFUGALLY CAST FIBER-REINFORCED PLASTIC PRESSURE VESSELS (CLASS I)
(Revision D — 2023)

Specification Number and Revision _____ Process _____

A change in any of the essential variables denoted by an asterisk below requires a new Procedure Specification.

*Fiber _____
(Manufacturer and Designation)

*Sizing _____
(Manufacturer and Designation)

Form of Reinforcement _____
(Cut Strand, Mats, or Preforms)

Binder for Mats and Preforms _____
(Polyester Emulsion, Polyester in Alcohol, Polyester Powder, etc.)

Weight Percent of Binder _____ Solubility _____
(Percent) (High or Low Resistance to Styrene)

Mats _____
(oz/sq ft; 1¹/₂, 2, 3) (gm/m²; 450, 600, 900)

Preforms _____
(Weight Percent of Binder)

*Resin _____
(Type, Manufacturer, and Designation)

*Curing Agent _____
(Type, Manufacturer, and Designation)

Viscosity of Resin System _____

*Cure
Mandrel _____
(Hours and Minutes) (Temperature) (Pressure)

Mold _____
(Hours and Minutes) (Temperature) (Pressure)

*Post Cure
Furnace _____
(Hours and Minutes) (Temperature)

*Weight Percent Fibers in Composite _____
Specific Gravity of Composite (ASTM D 792) _____

*Initial Bag Pressure _____

*Final Bag Pressure _____

Resin Injection Pressure _____

*Weight of Vessel _____

*Barcol Hardnesses and Location _____

Temperature During Lay-up _____

Pumping Procedure _____

FORM Q-106 (CONT'D)
(Revision D — 2023)

*Volumetric Expansion _____ (Volume)

*Mandrel Rotation, rpm (Centrifugal Casting) _____

Liner _____ (Material) _____ (Thickness)

Qualification

Vessel(s) Serial Number(s) _____

Design Report Number and Revision _____

Test Report Number _____

ASME Section X _____

Edition Year

Code Case No.

CERTIFICATION OF QUALIFICATION OF DESIGN AND FABRICATION PROCEDURE

We certify that the statements made in this Specification are correct.

Qualification Vessel by _____ at _____
(Fabricator) (Location)

Date _____ Signature _____

Our Certificate of Authorization No. _____ To use the Certificate Mark with RP Designator expires _____

CERTIFICATION OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by _____ of _____ have witnessed the tests by which the design of the vessel(s) and the fabrication procedure have been qualified and state that, to the best of my knowledge and belief, these tests of the prototype vessel(s) and the fabrication procedure employed in constructing the vessel(s) satisfy the requirements of Section X of the ASME BOILER AND PRESSURE VESSEL CODE, Fiber-Reinforced Plastic Pressure Vessels.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the design or procedure covered by the Fabricator's Design Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection.

Date _____ Commission _____
(National Board Authorized Inspector Number)

(Authorized Inspector's Signature)