FORM CRPV-2A RECOMMENDED FORM FOR QUALIFYING THE LAMINATE DESIGN AND THE LAMINATE PROCEDURE SPECIFICATION USED IN MANUFACTURING COMPOSITE REINFORCED PRESSURE VESSELS
As required by the Provisions of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 3

Qualification Test Report No. _____

Laminate Procedure Specification No. _____

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

*Fiber _____
(Manufacturer and Designation)

*Sizing or Finish _____
(Manufacturer and Designation)

*Resin _____
(Type, Manufacturer, and Designation)

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

Curing Agent/Resin Ratio _____

Viscosity of Resin System _____ (min.) to _____ (max.) @ _____

*Manner of Impregnation _____
(Prepreg., Wet Wind, Postpreg.)

*Percent Fiber by Weight in Composite _____
[See Note (1)]

*Variables of Winding Process [See Note (2)] _____

Helix Angle _____ (measured on cylinder between axis and band path)

Circumferential Band Density _____ end/unit length.

Circumferential Band Width _____

Tension: Per Strand (End), Roving, or Band (specify which) _____ per _____

Method of Control _____ Program _____

Layer Sequence _____
[See Note (2)]

*Primer _____
(Type, Manufacturer, and Designation)

Primer Application Method _____

*Primer Curing Schedule _____ for _____ hr _____ min

Exterior Treatment (Non-Structural, Describe) _____

	Fiber Type	Fiber Form	Manufacturer	Manufacturing No.
Material No. 1				
Material No. 2				

*Inner Liner _____
[Material, Grade, and Thickness. See Note (1)]

*Liner Size and Configuration _____ (O.D.) _____ (Length) _____ (Cylindrical, Spherical, Other)

Laminate Strength _____ Method of Measurement _____
(If other than ASTM D 2290)

Interlaminar Shear Strength _____

Acoustic Emission Test Report Number _____

NOTES:
(1) Where a range of values or a tolerance applies, state the applicable range or tolerance.
(2) Use O to indicate full layer of circumferential windings (down and back), include number of passes.
Use o to indicate half layer of circumferential windings (single pass).

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*Laminate Curing Schedule _____ (temperature) for _____ hr _____ min
_____ (temperature) for _____ hr _____ min
_____ (temperature) for _____ hr _____ min
_____ (temperature) for _____ hr _____ min
_____ (temperature) for _____ hr _____ min

Manner of Measuring Temperature: Oven Air _____ Wrong Surface _____

Vessel Head _____ Other (Describe) _____

*Barcol Hardness _____
(Use a separate sheet to record individual readings and their location [See Note (1)])

Laminate Thickness _____
(Use a separate sheet to record individual readings and their location [See Note (1)])

*Volumetric Expansion _____

Gel Time _____ min Peak Exothermic Temperature _____

Minimum Temp. Cycle Test: _____ (no. of cycles) from _____ to _____ @ _____ maximum test temperature

Maximum Temp. Cycle Test: _____ (no. of cycles) from _____ to _____ @ _____ minimum test temperature

Burst Pressure _____ Qualification Pressure _____

Mode of Failure _____

Cathodic Disbondment Test Results _____

Qualification:

Qualification Vessel Designation Number _____

Design Report Number _____

Original Qualification Report Number _____

If Requalification, Requalification Report Number _____

ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 3 _____ (Year)

We certify that the statements in this Specification are correct:

Date _____, _____ Signed _____

By _____

Certificate of Authorization Number (U3) _____ Expires _____

Certificate of Authorization Number (RP) _____ Expires _____

CERTIFICATION BY SHOP INSPECTOR
OF QUALIFICATION OF LAMINATE DESIGN AND LAMINATE PROCEDURE SPECIFICATION

Laminate Procedure Specification of _____ at _____

for _____ process of manufacturing vessel(s) described in

User's Design Specification Number _____ and

Manufacturer's Design Report Number _____

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by

_____ of _____

have inspected the pressure vessel and witnessed tests described in the Qualification Test Report of the Laminate Design and Procedure Specification and state that, to the best of my knowledge and belief, the Manufacturer has constructed this part in accordance with the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 3, and the Laminate Design and Procedure Specification being qualified. By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the design or procedure covered by this Qualification Test Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ (Authorized Inspector) Commissions _____ (National Board Authorized Inspector Commission number)