

Interpretation 2010-IOM-1

INTERPRETATION ON THE INTERNATIONAL ONE METRE CLASS RULES

Interpretation requested by the GBR NCA (MYA) regarding composite GRP/wooden hull construction as follows:

Question No.1: Assuming the OUTSIDE was coated with opaque or translucent paint and the inside of the wooden shell is covered with glass cloth (GRP), which is then painted with clear varnish or resin, does the construction comply with the class rule D.2.1(b)(5)?

Question No.2: Assuming the INSIDE of the wooden shell was coated with opaque or translucent paint and the outside is covered with glass cloth (GRP), which is then painted with clear varnish or resin, does the construction comply with the class rule D.2.1(b)(5)?

Question No.3: If both INSIDE and OUTSIDE are covered with glass cloth (GRP), which is then painted with clear varnish or resin, does the construction comply with the class rule D.2.1(b)(5)?

Question No.4: Assuming the INSIDE of the wooden shell is coated with opaque or translucent paint and the OUTSIDE is covered with glass cloth (GRP), which is then painted with coloured varnish or resin does the construction comply with the class rule D.2.1(b)(5)?

Question No.5: If the OUTSIDE is covered with glass cloth which is then painted with coloured varnish or resin and the INSIDE is covered with glass cloth and then painted with clear varnish or resin, does the construction comply with the class rule D.2.1(b)(5)?

Question No.6: We have recently investigated a moulded hull construction technique, which followed the West Epoxy System recommendation with a pigmented gel coat and a un-pigmented laminating resin, but with the hull fibres laid up whilst the gel coat was still wet. Technically this still complies with the rule, but the appearance of the finished moulding did not allow the fibres to be seen from the INSIDE as D.2.1(B)(5) requires. However the fibres were quite clearly visible from the OUTSIDE, pigmented gel coat side.

Does a construction that complies with D.2.1 as described above, with the exception that the fibres are visible from the outside rather than the inside, comply with D.2.1(b)(5)?

Relevant IOM Class Rules and discussion

Relevant IOM Class Rules:

D.2 HULL

D.2.1 MATERIALS

- (a) Subject to (b) and (c), the **hull**, excluding fittings and remote control equipment but including any supports and containers for such items, shall be made of and joined using one or more of the following materials:
 - (1) metal,
 - (2) wood; wood based products containing only permitted materials,
 - (3) glass fibre reinforced plastic,
 - (4) adhesive,
 - (5) varnish; paint,
 - (6) film covering materials which may be fibre reinforced,
 - (7) elastomeric material,
 - (8) thermoplastic, which may be moulded, containing only permitted materials.
- (b) In glass fibre reinforced plastic:

- (1) an external gel coat is optional and may be pigmented,
 - (2) an external paint coating is optional,
 - (3) the laminating resin shall be unpigmented,
 - (4) the reinforcement shall be glass fibre in any of the following forms: roving, tape, chopped strand mat and woven cloth,
 - (5) the interior shall be un-coated to permit non-destructive examination for verification of the material content.
- (c) With the exception of elastomeric materials, materials shall not be: expanded, foamed, honeycombed.

Discussion:

The part «to permit non-destructive examination for verification of the material content» of D.2.1(b)(5) is an expression of intention and not a proper rule. The rule part is «the interior shall be un-coated».

That is the interior of glass fibre reinforced – GRP – constructions shall be un-coated.

Term "Interior" in the D.2.1(b)(5) is related to the hull interior i.e inside surface of the hull shell in cases when only GRP is used for hull production or when GRP is used in combination with other permitted materials for the construction of inside shell of the hull.

General comment relevant for all MYA questions:

GRP stands for glass reinforced plastic i.e. composite material made of a plastic matrix reinforced by fine fibers made of glass. The plastic matrix may be a thermosetting plastic (most often polyester or vinylester), epoxy or thermoplastic. GRP is not glass cloth only as presented in MYA questions.

Decisions:

Answers on question No.1:

External varnish/paint is permitted. - IOM CR D.2.1(a)(5).

Wood is permitted. - IOM CR D.2.1(a)(2)

Internal GRP is permitted if it complies to IOM CR D.2.1(b)(3)-(4)

GRP interior shall be un-coated. - IOM CR D.2.1(b)(5)

Answers on question No.2:

External varnish/paint is permitted. - IOM CR D.2.1(a)(5) and D.2.1(b)(2).

Outside GRP is permitted if it complies with IOM CR D.2.1(b)(3)-(4)

Wood is permitted. - IOM CR D.2.1(a)(2)

Internal varnish/paint is permitted. - IOM CR D.2.1(a)(5)

Answers on question No.3:

External varnish/paint is permitted. - IOM CR D.2.1(a)(5) and D.2.1(b)(2).

Outside GRP is permitted if it complies with IOM CR D.2.1(b)(3)-(4)

Wood is permitted. - IOM CR D.2.1(a)(2)

Internal GRP is permitted if it complies to IOM CR D.2.1(b)(3)-(4)

GRP interior shall be un-coated. - IOM CR D.2.1(b)(5)

Answers on question No.4:

External varnish/paint is permitted. - IOM CR D.2.1(a)(5) and D.2.1(b)(2).

Outside GRP is permitted if it complies with IOM CR D.2.1(b)(3)-(4)

Wood is permitted. - IOM CRD.2.1(a)(2)

Internal varnish/paint is permitted. - IOM CR D.2.1(a)(5)

Answers on question No.5:

External varnish/paint is permitted. - IOM CR D.2.1(a)(5) and D.2.1(b)(2).

Outside GRP is permitted if it complies with IOM CR D.2.1(b)(3)-(4)

Wood is permitted. - IOM CR D.2.1(a)(2)

Inside GRP is permitted if it complies to IOM CR D.2.1(b)(3)-(4)

GRP interior shall be un-coated. - IOM CR D.2.1(b)(5)

Answers on question No.6:

IOM CR D.2.1(b)(3) requires lamination resin to be unpigmented. Any external gel coat shall not become a part of the lamination resin covering the glass fibres.

Interpretation decided on 8 May 2010 by a Sub-Committee:

Val Provoost, Technical Committee Chairperson of the ISAF-RSD

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