

**Project No.** 150457

**Client:** Council of the Isles of Scilly

**Tender Issue** 10/11/2017

**STRIDE TREGLOWN**  
ARCHITECTURE

## **Carn Gwavel School**

**10 November 2017**

**This document includes:**

Code	Section	Revision	Dated
J42	Single layer polymeric sheet roof coverings		

## **J42 Single layer polymeric sheet roof coverings**

To be read with Preliminaries/ General conditions.

### **TYPES OF ROOF COVERING**

#### **110A ROOF COVERING SYSTEM Roof Type R1**

- Waterproof Membrane: Dryseal GRP Roofing System
- Installation Contractor: Approved installers only.
- Manufacturer and Reference: Dryseal Roofing System by Hambleside Danelaw Limited, Long March, Daventry, Northants, NN11 4NR, Tel:- 01327 701900
- Sheet Material: Pre-formed Dryseal GRP H1250F membrane.
- Jointing: Wet laminate applied to GRP membrane & trims comprising 450g chopped strand glass matting and seaming tissue consolidated in catalysed polyester resin, to be applied to all seams, laps and details
- Attachment: as Clause 710
- Top Coat: Polyester resin top coat, colour Dryseal Dark Grey to be applied to all areas of pre-cured and insitu GRP laminate following through cleaning using approved solvent at application rate of 3m<sup>2</sup> per litre maximum. Crushed glass to be incorporated in top coat to offer non-slip finish to walkway areas as directed.
- Accessories:
  - Pre-formed Dryseal GRP trims to suit all roof detailing and roof perimeter details.
  - Drawing Reference(s): Refer to drawings HDL\_TRIMS and individual Dryseal detail drawings.
- Substrate: 18mm WBP plywood or OSB CE2+.
- Lower Protection Layer: Not required.
- Vapour Control Layer: Refer to Dryseal recommended VCL document.
- Laying: as clause 670
- Insulation: as clause 420
- Attachment: Loose lay as clause 680, mechanically fixed with Dryseal Sheet.

**110B ROOF COVERING SYSTEM Roof Type R2**

- Waterproof Membrane: Dryseal GRP Roofing System
- Installation Contractor: Approved installers only.
- Manufacturer and Reference: Dryseal Roofing System by Hambleside Danelaw Limited, Long March, Daventry, Northants, NN11 4NR, Tel:- 01327 701900
- Sheet Material: Pre-formed Dryseal GRP H1250F membrane.
- Jointing: Wet laminate applied to GRP membrane & trims comprising 450g chopped strand glass matting and seaming tissue consolidated in catalysed polyester resin, to be applied to all seams, laps and details
- Attachment: as Clause 710
- Top Coat: Polyester resin top coat, colour Dryseal Dark Grey to be applied to all areas of pre-cured and insitu GRP laminate following through cleaning using approved solvent at application rate of 3m<sup>2</sup> per litre maximum. Crushed glass to be incorporated in top coat to offer non-slip finish to walkway areas as directed.
- Accessories:
  - Pre-formed Dryseal GRP trims to suit all roof detailing and roof perimeter details.
  - Drawing Reference(s): Refer to drawings HDL\_TRIMS and individual Dryseal detail drawings.
- Substrate: 18mm WBP plywood or OSB CE2+.
- Lower Protection Layer: Not required.
- Vapour Control Layer: Refer to Clause P10/140A
- Laying: as clause 670
- Insulation: Refer to Clause P10/140A
- Attachment: Loose lay as clause 680, mechanically fixed with Dryseal Sheet.

**110C ROOF COVERING SYSTEM Roof Type R3**

- Waterproof Membrane: Dryseal GRP Roofing System
- Installation Contractor: Approved installers only.
- Manufacturer and Reference: Dryseal Roofing System by Hambleside Danelaw Limited, Long March, Daventry, Northants, NN11 4NR, Tel:- 01327 701900
- Sheet Material: Pre-formed Dryseal GRP H1250F membrane.
- Jointing: Wet laminate applied to GRP membrane & trims comprising 450g chopped strand glass matting and seaming tissue consolidated in catalysed polyester resin, to be applied to all seams, laps and details
- Attachment: as Clause 710
- Top Coat: Polyester resin top coat, colour Dryseal Dark Grey to be applied to all areas of pre-cured and insitu GRP laminate following through cleaning using approved solvent at application rate of 3m<sup>2</sup> per litre maximum. Crushed glass to be incorporated in top coat to offer non-slip finish to walkway areas as directed.
- Accessories:
  - Pre-formed Dryseal GRP trims to suit all roof detailing and roof perimeter details.
  - Drawing Reference(s): Refer to drawings HDL\_TRIMS and individual Dryseal detail drawings.
- Substrate: 18mm WBP plywood or OSB CE2+.
- Lower Protection Layer: Not required.
- Vapour Control Layer: Not required, for open buggy store
- Laying: as clause 670
- Insulation: Not required, for open buggy store
- Attachment: Loose lay as clause 680, mechanically fixed with Dryseal Sheet.

## **PERFORMANCE**

- 201 MANUFACTURERS GUARANTEE
- The manufacturer will provide a 20 Year guarantee covering Product and Design.
  - To be read in conjunction with the manufacturers guarantee terms and conditions (sample available on request). The manufacturer will only guarantee roofing systems installed by their approved roofing contractors.
- 210 ROOF PERFORMANCE
- Roof covering: Secure, free draining and weathertight.
- 225 AVOIDANCE OF INTERSTITIAL CONDENSATION: WARM AND INVERTED ROOFS
- Interstitial condensation within roof construction: Determine risk as recommended in BS 5250 and BS EN ISO 13788.
  - Vapour control layer: If necessary, provide a suitable membrane so that damage and nuisance from interstitial condensation do not occur.
- 230 INSULATION
- Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
    - Thermal transmittance of the roof (maximum): 0.16 W/m<sup>2</sup>K.
    - Compressive strength of insulation (minimum) at 10% compression: n/a.
    - Finished surface: Suitably even, stable and robust to receive roof covering.
    - Insulation compliance: To a relevant European Standard, or Agrément certified.

## **PRODUCTS**

- 330A TIMBER TRIMS, ETC
- - Planed, free from wane, pitch pockets, decay and insect attack except pinhole borers
  - - Moisture content: Not more than 22% at time of covering
  - - Preservative Treatment: CCA as section Z12 and British Wood Preserving and Damp Proofing Association Commodity Specification C8
  - - Fix with sheradised steel screws at not more than 600mm centres
- 345A PERIMETER TRIMS
- - Pre-cured Dryseal GRP drip and angle trims to all perimeter details in accordance with drawings supplied and Dryseal Technical Manual.
- 355A MECHANICAL FASTENERS, WASHERS, PRESSURE PLATES, ETC
- - Fastenings, including washers, pressure plates, etc.. must be approved by Hambleside Danelaw Ltd. and comply with the current edition of the British Board of Agrément MOAT 55, 'UEAtc Supplementary guide for the assessment of mechanically fastened roof waterproofing for Class 2 fasteners and must be types recommended for the purpose by the manufacturer
  - - Install fastenings using manufacturers recommended equipment, fitted with bit stop etc.. to ensure correct and consistent insertion

**420A RIGID URETHANE FOAM WARM DECK ROOF INSULATION**

- Manufacturer: Kingspan Insulation.
  - Web: [www.kingspaninsulation.co.uk](http://www.kingspaninsulation.co.uk).
  - Email: [info@kingspaninsulation.co.uk](mailto:info@kingspaninsulation.co.uk).
  - Tel: +44 (0)1544 387601.
  - Address: Pembridge, Leominster, Herefordshire. HR6 9LA.
  - Product reference: Thermaroom TR26® LPC/ FM
- Insulation thickness: 140mm.

**EXECUTION GENERALLY**

**500 ROOFING GENERALLY**

- Lay roof covering to provide a secure, free draining and completely weathertight roof, with membrane free from wrinkles and other blemishes
- Ancillary products and accessories, where not specified, to be types recommended for the purpose by the membrane manufacturer
- Use operatives trained in the application of Dryseal system and who have attended a recognised training course. Submit evidence of training to CA on request
- Maintain a minimum of one fully trained and approved operative on site throughout the installation period

**510A ADVERSE WEATHER**

- The membrane must not be laid in wet or damp conditions or at temperatures below 5°C.
- The laminate joints and top coat must not be laid in wet or damp conditions or where temperatures may fall below 5°C before full cure has been achieved.
- Provide temporary covers and drainage as required to keep unfinished areas of the roof dry
- Suspend work in severe or continuously wet weather unless effective temporary roof is provided over the working area
- If unavoidable wetting of the construction does occur, take prompt action to minimise and make good damage
- Temporary ballast incomplete areas of membrane as necessary to protect from wind action

**520A INCOMPLETE WORK: AT THE END OF THE WORKING DAY**

- Temporary seal the membrane to the deck to prevent any water filtration
- Protect warm deck insulation with temporary seal
- Ensure that the sequence of laying enables temporary sealing of loose membrane edges to be down the slope and not against the flow of water
- On resumption of work cut away the tail of the membrane from completed area and remove from roof

## **PROTECTION AND STORAGE OF MATERIALS**

### **560 PROTECTION OF WORK**

- Ensure that from completion of the roof until practical completion:
  - The roof is not used as working platform unless fully protected to the satisfaction of the CA
  - No building material are stored on the roof
  - Finished roof areas are adequately protected from damage by subsequent building operations

## **SUBSTRATES/ VAPOUR CONTROL LAYERS/ WARM DECK ROOF INSULATION**

### **610A SUITABILITY OF SUBSTRATES**

- Before installing roof covering ensure that:
  - Surfaces to be covered are firmly fixed, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
  - All preliminary work including formation of upstands, kerbs, box gutters, sumps, grooves, chases, expansion joints, etc and fixing of battens, fillets, anchoring plugs / strips etc. is complete and satisfactory.

### **670A LAYING VAPOUR CONTROL LAYER**

- - Lay sheets loose, flat and without wrinkles to 100mm side and end laps.
- Seal laps using materials and method recommended by membrane manufacturer (tape or gun applied sealant)
- Dress the vapour control layer up all upstands, kerbs and other penetrations, around the edge of the insulation and under the waterproof membrane to form a complete seal. Seal onto upper face of insulant.

### **680A LAYING WARM DECK ROOF INSULATION**

- - Loose lay boards with long edges at 90° to structure, tightly butted with staggered end joints.
- On completion of laying ensure that boards are in good condition, well fitting and with no springing or rocking.
- Other Requirements: Fix treated s.w. insulation stops to the depth of insulation x 50mm min. to support GRP material at unprotected edges along gutter.

## **WATERPROOF MEMBRANES/ ACCESSORIES**

### **710A MECHANICAL FIXING OF WATERPROOF MEMBRANE-**

Mechanical fixings along

side, end and trim laps at maximum of 300mm centres

- Fixings: Dryseal approved roofing screws min 140mm long and DP40 stress plates for fixing membrane and trims to timber decking.
- Washers / Pressure Plates must lie completely flat on overlapping section of membrane, 1 to 4mm from edge.
- Sheet and trim overlaps to extend beyond washers / pressure plates by a minimum of 10mm.

**755 JOINTING OF PRE - FORMED GRP**

- Thoroughly clean down areas to receive insitu jointing work using approved solvent cleaner.
- Lap side and end joints not less than 50mm or as clause 710 ensuring that water will drain over and not into them wherever practical.
- Using approved 450gm chopped strand glass mat, seaming tissue and catalysed polyester resin, form consolidated laminated seams in approved manner to all seam laps and exposed fixings

**780A ROOF PENETRATIONS THROUGH GRP MEMBRANE**

- Cut membrane around all roof penetrations.
- Install pre-formed wall fillet trims suitable to accommodate Plateau access rooflights terminating behind appropriate drip/cover strips.
- Form insitu laminate collar to soil vent pipe penetrations and to roof membrane. Form outer collar from pre-formed sheet material only if required and seal to pipe using insitu laminate.

**785A RAINWATER OUTLETS**

- Recess in to the gutter sole / insulation wherever possible and firmly secure with no lip preventing the free flow of water.
- Type(s) recommended for the purpose by the membrane manufacturer incorporating separate sealing / clamping ring and strainer.

**795A ADJOINING ROOFS OR ROOF COVERINGS**

- Any junctions or joins with existing roof coverings should:
  - Be formed in an appropriate manner subject to the detail with all laps in the direction of flow of water.
  - Provide sufficient weather proof cover or adequate long term sealing to all laps.
  - Raise any joint between dissimilar waterproofing materials above the level of standing or running water.

**COMPLETION**

**910A INSPECTION**

- Inspection of the roof installation whilst in progress and on completion as required.

**920A ELECTRONIC ROOF INTEGRITY TEST**

- Electronic membrane testing is NOT a requirement for the Dryseal 20 year Guarantee, but may be employed as a Client Requirement.

**940A COMPLETION**

Ensure that

- Roof areas are left clean with all outlets clear.
- All work by others necessary to provide watertight finish is satisfactorily completed.
- Defects are repaired without delay to minimise damage and nuisance.