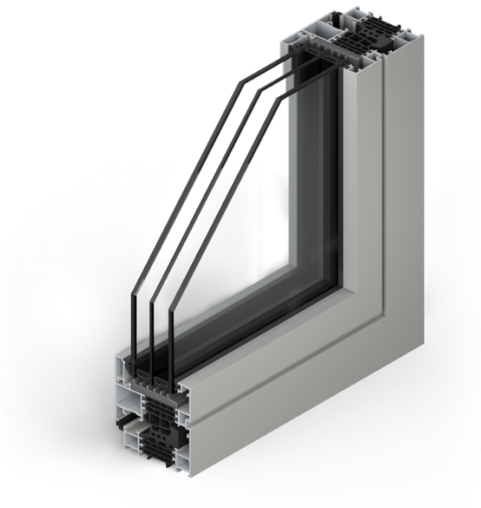
Technal

Clivnars

# Queensmead Estate

## L10

## 11-12-2023



# Contents

# L10
# Soleal Next Visible

## General

### 110 Evidence of performance

1. Footnotes: The footnotes at the end of this Specification apply to the information contained herein and the reader's attention is drawn to them.
2. Certification: The frames are to comply with all relevant British Standard Specifications, Codes of Practice, and Statutory Requirements (including all revisions and amendments), as well as the guides and recommendations laid down by the relevant trade organisation relating to their performance, constituent materials, methods of assembly and use. Any exceptions to the above are to be advised in writing by the specifier.

   All frames and other sections to be extruded aluminium alloy specification 6060 T6 compliant with EN 12020-2, EN 573-3, EN 515 and EN 755
   -1 to 9.

   Where Secured by design certification is required the window fabricator must hold British Standard Kitemark licences for BS4873 “Specification for Aluminium Alloy Windows” and PAS 24-1:2012 “Enhanced Security performance requirements for doorsets and windows in the UK”. Prior to commencement of work on site, the Specialist Contractor shall forward copies of the Kitemark Certificates to the Contract Administrator.

   All materials and ancillary products are to be used and fitted entirely in accordance with the instructions of the relevant manufacturer.

### 120 Pre-construction survey

1. Procedure: The Window Fabricator/Installer (Specialist Contractor) is expected to make a pre tender visit to site/inspection of all relevant drawing and documents in order to ascertain all relevant conditions, structural details and site layout. No additional claim will be entertained for items that would be apparent during the pre-tender site visit and/or inspection of documents. The Specialist Contractor must allow in his tender for the replacement of all items specified and/or required.

   The Specialist Contractor shall allow in his price for a survey visit to site in order to take the dimensions and adjacent structural details of every window and door that is to be replaced.

   The units supplied are to be manufactured to suit existing openings.

   Notwithstanding any information within this Specification, all framing and infills shall be capable of withstanding the design wind loadings calculated in accordance with BS EN 1991-1-4:2005 +A1:2010 and imposed loads as defined in BS6399-1-1:2002 or BS EN 1991-1-7 +A1:2014, and the Specialist Contractor shall carry out calculations to demonstrate this.

   The Specialist Contractor is responsible for ensuring that all new doors are square and central in the opening, and that a perimeter gap shall be provided to allow adequate thermal expansion and contraction of the framing, consistent with the site location and limitations of the perimeter sealant used. Any packing sections or materials required to compensate for misaligned apertures shall be agreed by the Contract Administrator prior to manufacture.

   The Specialist Contractor shall provide drawings to the Main Contractor depicting all profiles, glazing, weather seals, gasket fixings and sealants to be used and the relationship of the above to the adjacent structural details for each window type.

   Allow for anomalies and variations in the size of the openings, and for out-of-square openings.

This is to include for the manufacture of “specials” as necessary.

Window configurations are to be depicted within the attached Window Schedule/Drawings as listed below.

The Specialist Contractor is to provide drawings showing the relationship of framing to structure, including all profiles, sealants, fixings, trims and weather seals.

Opening lights within 800mm of FFL should be guarded in accordance with BS6180:2011 and BS6399:1 or BS EN 1991-1-1

2. Primary support structure: Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
3. Timing: Before fabrication.

## Products

### 205 Window materials specification

1. Material Specification: All frames and other sections to be extruded aluminium alloy specification 6060 T6 compliant with EN 12020, EN 573-3, EN 515 and EN 775
-1 to 9.

Technal Soleal Next window is made from Hydro CIRCAL®, recycled low carbon aluminium, a high quality aluminium made with a minimum of 75% recycled end-of-life aluminium (post-consumer scrap). Hydro CIRCAL® has a carbon footprint of 2.3 kg of CO2/kg of aluminium on average.

The thermal barrier section is achieved using two separate aluminium extrusions and two 40mm wide glass reinforced polyamide extrusions mechanically jointed to form a single compound profile. The sections forming the windows are to incorporate a thermal break, achieved using a high strength, glass reinforced polyamide barrier to PA66 GF25.

The thermal break is to be applicable to all profiles, including vents, couplers and cills.

Joints to be sealed with sealants as specified by the aluminium systems company fabrication manual.

All fabrication to be strictly in accordance with the system company’s Fabrication and Specification Manuals and all current Technical Bulletins.

Technal Soleal Next window is certified to CRADLE to CRADLE® multi-attribute assessment and certification scheme.

### 330 Aluminium windows Open in

1. Standard: Non-fire and/ or smoke-rated windows to BS EN 14351-1 and BS 4873
2. Exposure category to BS 6375-1/ design wind load:: XXPa
Notwithstanding any information within this Specification, all framing and infills shall be capable of withstanding the design wind loadings calculated in accordance BS EN 1991-1-4, and imposed loads as defined in BS6399 Pt1: 1996 or BS EN 1991-1-1, and the Specialist Contractor shall carry out calculations to demonstrate this.
3. Manufacturer: Hydro Building Systems Uk Ltd
Severn Drive
Tewkesbury
Gloucestershire
GL20 8SF
Telephone: 01684 853500
harry.tamplin@hydro.com

3.1. Product reference: Technal Soleal Next 75mm TBT open in Visible window

4. Finish as delivered: Polyester powder coating to BS EN 12206-1.
PPC White RAL 9910
All finishing to be under taken by Hydro Building Systems prior to delivery to the fabricator.
5. Weather Performance:
   5.1. Air permeability: Class 4 in accordance with BS EN 12207
   5.2. Watertightness: E1500 in accordance with BS EN 12208
   5.3. Resistance to wind load: Class C5 (Deflection 1/300 at 2000Pa pressure) in accordance with BS EN 12210
6. Thermal performance (U-value maximum): The window specified is to achieve a U value ($U_w$) of 1.4W/$m^2$K when glazed with the materials outlined in Clause 336 below. U value to be calculated according to the smaller window configuration defined in BS EN14351-1; Conventions for U value calculations, in accordance with Approved Document L1B.
7. Handle Operating Forces:: Class 1 in accordance with EN 12046-1
8. Mechanical operating forces : Class 4 in accordance with EN 12046-1
9. Durability:: 20,000 Cycles in accordance with EN 1191
10. Glazing details: 6/16/6 tough soft coat low E.

    Glazing to be confirmed by the nominated sub-contractor.

    All glazing in WCs and bathrooms shall have obscured glass to the inner pane.

    All glass within 800mm from FFL shall be toughened or laminated. (Below 1500mm if within a door or 300mm of a door)

    All glass and glazing shall conform to:

    BS EN12600: 2002 Glass in building. Pendulum test. Impact test method and classification for flat glass
    BS EN 1279: Glass in Buildings. Insulating Glass Units.
    Part 1:2004 Generalities, dimensional tolerances and rules for the system description
    Part 2:2002 Long term test method and requirements for moisture penetration
    Part 3:2002 Long term test method and requirements for gas leakage rate and for gas concentration tolerances.
    Part 4:2002 Methods of test for the physical attributes of edge seals
    Part 5:2005+A2:2010 Evaluation of conformity
    Part 6:2002 Factory production control and periodic tests.

    Manifestation design and location to be confirmed by the Contract Administrator.

    Recommendations of the Glass and Glazing Federation should be adhered to.

11. Beading: Internal for sash and fixed light
Square, Stepped or Security Beads available
12. Ironmongery/ accessories: Manufacturer's standard Tilt before Turn gearing with Locking handle.
Maximum sash weight: Up to 110 kg per vent
Up to 160kg per vent when combined with a load transfer device .
13. Trickle Ventilation:: Trickle ventilation where required to be achieved through a specific add on profile at the head of the window.
14. Fixing: To suit site conditions and building construction type. Quantity, type and size of fixings to be determined by window fabricator/ installer

# Execution

## 710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
   Do not store in direct sunlight.
   Any protective films to be removed within 3 months of delivery.
2. Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

## 750 Building in

1. General: Not permitted unless indicated on drawings.

## 760 Replacement window installation

1. Standard: In accordance with BS 8213-4.
   Frames should be positioned to cover cavity within reveals and level with the existing external window line where possible, ensuring they are plumb level and without any twist or bow.

   The removal of existing windows must be programmed to ensure that units are only removed if they are to be replaced within the same working day. Immediately on removal, the existing windows, together with any debris associated with the removal of existing units, are to be cleared away to an approved tip or storage location. At the end of each working day, the Specialist Contractor shall be responsible for the removal of any debris from the existing units and new materials from site, and shall thoroughly clean the working area in accordance with the requirements of the Schedule of Works.

   The Specialist Contractor is to ensure that all metal framing materials and all glass is recycled once removed from site.

   The Specialist Contractor is to make all due allowance to ensure that no damage is caused to the property internally or externally. The Specialist Contractor's attention is drawn specifically to the need to protect soft landscaping and external and internal fabric and finishes. Any damage caused as a result of the replacement of windows will be the Specialist Contractor's liability.

   The Specialist Contractor shall allow for all necessary making good of all work disturbed.

   Any gap between the internal frame face and the existing plaster line is to be filled with expanding foam void filler, knifed off flush with the plaster. The foam and a minimum of 15mm of plaster are to be covered with PVCue trims from a product range which carries BBA certification or Kitemarking to BS7619: 2010. Trims to be fixed with acrylic caulking.
   Existing sliding sash boxes and all associated trims are to be removed. In the case of rebated reveals the Specialist Contractor is to make up the rebate dimension internally with treated softwood, such that the reveal is made flush. Internal PVCue linings are to be applied to the satisfaction of the C.A. (See above re PVCue materials). No timber shall be exposed to moisture and the Specialist Contractor shall provide a detail drawing showing his solution for the CA's approval prior to manufacture.

   The Specialist Contractor is to allow for necessary measures to protect the occupants, fittings and finishes within the rooms for the duration of the works.

   Allow for making good work to window openings, both internally and externally, including masonry, plaster, cladding and decorative finishes to reveals. No additional allowance will be made for costs associated with making good which would be visible on a site inspection.

   Allow unclipping all existing telephone cables, aerial cables and the like from existing windows and door frames, and re-clip to surround in a suitable location using new cable clips of appropriate size and colour. Any cables passing through a frame/structure joint shall be routed

through a plastic sleeve, the inner end of which is to be higher than the outer to prevent water penetration along or through the sleeve.

Remove and re-fit existing net curtains and other soft furnishings as applicable. Curtain rods to be screw fixed to window frame head. Main Contractor to replace curtain rods where necessary. Inform Contract Administrator of any soft furnishings not suitable for re-instatement.

Upon completion of the installation of each replacement window, all glazing, window frames, handles and all other surfaces are to be cleaned with a mild detergent. All components are to be checked for security of fixings, adequacy of clearances, adjustment of hinges, locks etc. as may be necessary to leave the window/door units in good working order.

On removal of the existing windows, doors and associated frames, sub frames, cill etc the reveal surfaces of the opening are to be cleaned to remove all existing frame sealant, mastic, beading mortar etc. ready for the installation of the new units.
DPC materials are to be repaired/renewed as necessary and tucked into the new framing.

## 765 Window installation generally

1. Installation: In accordance with BS 8213-4.
   Into prepared openings.
2. Fixing of Frames:: As section Z20 using appropriate fixings.
   Window framing to be securely fixed direct to the building structure, no further than 150mm from each corner and at centres not exceeding those laid down in procedures issued by the systems company.
3. Distortion: Install windows without twist or diagonal racking.

## 782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners: To be determined by the fabricator/ installer to suit site conditions and building structure.
   2.1. Spacing: Window framing to be securely fixed direct to the building structure, no further than 150mm from each corner and at centres not exceeding those laid down in procedures issued by the systems company.

## 810 Sealant joints

1. Sealant
   1.1. Sealant Type:: Low modulus neutral cure silicone sealant to BS EN ISO 11600: 2003 + A1: 2011. Sealant backing to be provided and detailed in drawings.
   1.2. Application: As section Z22 to prepared joints.
   Seal all external joints between framing and structure.
   Finish triangular fillets to a flat or slightly convex profile.

## 820 Ironmongery

1. Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. Checking/ adjusting/ lubricating: Carry out at Completion and ensure correct functioning.

## Footnotes for Specifiers

1. ***Footnotes for Specifiers only***
   *Footnotes to be used on all specifications which includes NBS*
   *Information is given on an advisory basis only and specifiers are particularly recommended to contact suppliers of non-Hydro Building Systems UK Limited products to ensure that such*

*products are suitable.*
*Hydro Building Systems recommends that a pilot window be installed prior to the commencement of the works.*
*Glazing*
*Hydro Building Systems Limited recommends that a glazing thermal safety check be carried out by the glass or sealed unit supplier/manufacturer.*
*Scope*
*The Specification and accompanying Schedule of window configurations have been designed to replicate the existing arrangements.*
*Any Window and Door Schedules are issued by Hydro Building Systems Limited for the principal purpose of defining the window and door sizes and configurations that this specification refers to. Hydro Building Systems Limited are not liable for the accuracy of any quantities shown on the Schedule, which should be re-assessed by the Specifier.*
*Calculation*
*Due to possible changes of design and usage after the compilation of this specification we recommend that the window fabricator/installer calculate framing requirements to comply with Approved Document K3 and BS6180 with regard to loading and barriers. Wind load calculations relating to framing and profile specifications have been carried out on a preliminary basis only using information available at the time, and a basic form of calculation to BS EN1991-1-1-:2005 +A1:2010. The fabricator/installation contractor should provide detailed wind load calculations based on full and final information at the point of order, based on BS EN 1991-1-4:2005+A1:2010. Specifiers are advised to check as to whether solar control glass is required to comply with Approved Document L (April 2013 with 2016 amendments of the Building Regulations in respect of solar overheating, or if other methods of solar shading are necessary).*
*Fire Escape*
*Certain Window configurations may not meet the requirement of Approved Document B (2019) of the Building Regulations for a fire escape window. Altering the configurations may achieve compliance.*
*Safety in Use*
*Due to client preference or conflicting regulations and standards the windows described above* ***may not/do not*** *comply with the safe internal cleaning requirements of BS8213-1:2004 terms of reach.*
*Introducing alternative window configurations may result in a greater degree of compliance with BS8213 Pt.1.*
*BS8213: Part 1 2004 (Code of Practice for Design For Safety In Use and During Cleaning of Windows…) requires a Risk Assessment to be carried out. Please note that Hydro Building Systems cannot carry out such an assessment as we have insufficient knowledge of the occupation and operation of the building. However we will be happy to contribute our specialist knowledge to a Risk Assessment carried out by others. Consult your Hydro Building Systems Project Consultant for more details.*
*Thresholds*
*Door thresholds have not been specified to comply with Approved Document M due to the multi storey nature of the building.*
*Document L*
*The windows/screens ref xxxxxx is assumed to be "display glazing" and therefore not subject to Building Regulation Part L.*
*The information contained in this Specification is given on an advisory basis only and specifiers should contact suppliers of non-Hydro Building Systems UK Limited products to ensure that such products are suitable.*
*Unless expressly agreed otherwise in writing by Hydro Building Systems UK Limited, specifiers and/or any third party to whom this Specification may be provided must carry out their own design work (including calculations etc) to ensure that Hydro Building System UK Limited's products are suitable for their particular project. Hydro Building Systems UK Limited accepts no liability to specifiers and/or any third party in contract, tort (including negligence or breach of statutory duty) or otherwise howsoever in respect of the design of the particular project.*
*In respect of the information contained in this Specification, unless expressly agreed otherwise in writing by Hydro Building Systems UK Limited:*
*(a) specifiers and/or any third party to whom this Specification may be provided should satisfy themselves as to suitability or not of Hydro Building System UK Limited's products for their*

*particular project; and*
*(b) Hydro  Building Systems UK Limited shall not be liable to specifiers and/or any third party in contract, tort (including negligence or breach of statutory duty) or otherwise howsoever, and whatever the cause thereof, (i) for any increased costs or expenses, or (ii) for any loss of profit, business, contracts, revenues or anticipated savings, or (iii) for any special indirect or consequential damage of any nature whatsoever."*
*In any event, specifiers will (unless expressly agreed otherwise in writing by Hydro  Building Systems UK Limited) indemnify Hydro  Building Systems UK Limited against all actions, proceedings, claims or demands in any way connected with the information contained in this Specification including (but not limited to) the use of such information in the design of the particular project.*

Ω End of Section

Specification created using NBS Chorus