TECHNICAL UPDATE

LABC Warranty Technical Manual
Version 11 Change Log

Provision of information

This article provides guidance on the changes to the new LABC Warranty Technical Manual which is to go live from 1st February 2023.

Key:

Where applicable:

- Page numbers in black refer to the previous Technical Manual
- Page numbers in green refer to the new Technical Manual

Notes:

- Minor typing corrections and formatting changes are not recorded in the list below.
- 'Various' is stated in the page numbers column where the change is reflected on a number of pages throughout the section.

Technical Manual 2023 Changes

Section	Page numbers	Change detail
Whole of the manual		
		We have improved the overall look and feel of our Technical Manual by introducing grey banners for sub-headings on all pages. This allows the reader to easily distinguish what text is related to what sub-heading. Readability has also been improved by adjusting the page layouts so content is split over 2 or 3 columns.
		All diagrams within the technical manual have had their line widths adjusted to enhance the images and ensure consistency throughout the manual.
		A lot of the diagrams have had a bit of colour added to highlight the main aspects of the diagram.
		Text labels around diagrams have had their font size increased so they match the main body of text
		We've aimed to make the Technical Manual easier to use by replacing the General Functional Requirements previously at the start of the manual and providing all applicable Functional requirements at the start of each Section. This avoids the reader having to divert back to the beginning of the Technical Manual.
		All Functional requirements have been updated and should be carefully read through to note changes applicable to each section.

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		The Functional Requirements relating to durability of materials, now refer to 'Service life'. A table listing service life requirements for common structural and Water proof envelope components can be found in Appendix C.
		We have introduced a Provision of information content at the start of each Section, to identify key information we require. This would be an important area to discuss with your Warranty Surveyor during the Site Risk Assessment of your project.
		In the introduction we now have a definition for what we mean by an Engineer and references within the Technical Manual will just use the reference as 'Engineer'.
		Ground conditions (formally section 20) becomes Section 1 and Tolerances (formally section 1) moves to Section 20. This is so the Ground Conditions section is directly followed by guidance on Basements, Foundations and ground floors - which are all interrelated with guidance on Ground Conditions.
		We have rationalized and consolidated a lot of our guidance throughout the TM to make it easier to read. An example of this is all of our guidance on parapets can now be found in one location (section 6.6). Similarly, we have moved all our guidance on stone cladding to our cladding section (section 6.5). Section 8 for Windows and Doors has been renamed External Windows and Doors and all of the general guidance for all windows and doors is now located at the start of section, with guidance for specific window and door types located in subsequent sub-sections thereafter.
Section 1 – Ground Conditions		
		This section has been repositioned to Section 1 from Section 20, to ensure value of identifying ground conditions is taken into account before basements and Foundations. There are no other major changes to this section.
Section 2 – Basements		
		Section 2.1 has been substantially re written to assist in managing the risk that basements present. The guidance highlights the responsibilities of the Design

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		team and the importance of sufficient and relevant information being provided at a very early stage.
	20	Functional requirements substantially revised and include a requirement in Design 3, that the Developer provides to us 8 weeks before the commencement of the basement, a water proofing design and specification (including a site investigation report). This is to ensure the correct information specific to the conditions on site has been planned and thought out in advance and that all risks are catered for in the proposal.
	22	Statement added at the start of section to state: All basements and below ground structures will need to be evaluated on a project specific basis for performance against the required environmental grade prior to any work commencing on site. The Developer must provide evidence to us that the water proofing design is appropriate for the risk.
	22	Examples (for Warranty purposes) of structures wholly or partially below ground are provided

	23	New guidance for:
		• Risk based design provided
		• The importance of Site investigations to determine ground conditions
		• Stability and durability including:
		  ○ Expected structural movement
		  ○ Durability of materials

	25	Basement grades updated to reflect changes in BS8102
	25	New requirement: where a Grade 3 environment is required, combined protection must be provided (consisting of 2 systems recognised by BS8102). An accessibility and reparability option is essential and should form part of any structural waterproofing design.
	27	New guidance on lift pit detailing (subject to relevant Policy cover provision)
	Section 2.2	minor updates including:
		All drawings updated to show RC concrete structures with Kickers.
	29	Additional guidance for type A barrier protection - Surfaces on which barrier protection systems are applied must be sufficiently prepared to gain maximum

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		bond strength. Also temperature and weather conditions must be considered when application is made.
	31- 32	Additional guidance for type C systems - Whilst the cavity membrane perimeter drainage channel is intended only to deal with seepage it could discharge to a deeper fixed drains to drain out via gravity. The potential risk of surcharge from blocked external drains is high and therefore the system must be protected by a non-return valve on the drainage outfall. The details of its position and accessibility for maintenance must be provided in the operations and maintenance manual for maintainable systems.
Section 3 – Foundations		
	32 40	Updated guidance on differential settlement for mass fill foundations
	32 40	Notes for plasticity index added under minimum foundation depths table for mass fill foundations.
	40/43	Additional guidance for width of mass fill and strip foundations. Loadings and ground conditions must be taken into account. In addition, where widths are less than 600mm, an engineer's design must be provided.
	Various	Section 3 now makes reference to piled raft slabs in addition to ground beams due to their increased use in the industry
	39 47	For pile construction records, two further points on 28 day concrete cube test results and concrete mix design certificate added
	44 52	Amendment to 'Limitations of Guidance' for raft foundations to provide more clarity
	44 52	Minor text additions to structural design paragraph for raft foundations
	47 55	Amendment to 'Limitations of Guidance' for Engineered fill to provide updated figure for undrained cohesion
	47 55	Made it more clear that a specification of the engineered fill is required

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	51 60	Amendment to 'Limitations of Guidance' for vibratory ground improvement to provide updated figure for undrained cohesion
	55 64	Where desiccated clay is present and raft foundations proposed, we now clarify this is outside the scope of our guidance and an engineering referral should be made
	55 64	Updated definitions for cohesive and none-cohesive soils
	56 65	Updated guidance on soil samples for trees and clays to include information on moisture content along with a determination of the percentage of soil particles below the size of 425 microns
	58 67	Minor text amendments to paragraph titled trees removed prior and during construction
Section 4 – Ground floors		
	Various	Guidance added that ground floors must be designed and constructed to ensure adequate protection against ground gases and other contaminants emanating from the ground below. Details of where to find further guidance on radon also provided
	72, 75, 77	Additional guidance provided for insulation requirements for ground floors
	Various	Drawings within section simplified to focus on our warranty requirements
	69 80	Clarification of existing guidance on stepped party walls. Additional guidance on the subject also added
	84, 86	Additional clarification added for levelness and deflection limits for timber floor joists.
Section 5 – Drainage		
	93	New guidance provided on Macerators and Pumps
	82, 86 92, 96	Notes amended regarding Openings for pipes in fire resisting floors and walls
	91 102	Guidance added requiring CCTV survey for existing drains when being retained
	85 95	Updated guidance to say: Rainwater pipes from higher roof levels should not discharge onto a lower flat roof or balcony
	99	New guidance (5.3.2) for Junctions in drains formed under buildings.
Section 6 – External Walls		

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	Various	Whole of section 6 has been rationalized with, for example all of the parapet guidance now contained within one new sub-section 6.6. Sub section 6.5 cladding has also undergone similar changes
	Functional requirements 112	Workmanship 2: this has been updated to clarify that our requirement for either a third party approved contractor completes the fire stopping / cavity barriers , OR a suitable quality assurance process is in place to evidence the installation, is applicable to 'all floor levels' of a multi occupancy building which has a floor 4.5m above ground (i.e. not just those parts of the building over 4.5m)
6.1 Traditional Masonry Cavity walls	Various	Guidance in section 6.1 has been consolidated so that: • Wall tie guidance is all in 6.1.5 • Movement joint provision is now all in 6.1.6 • Lintel provision is now in 6.1.7 • Forming weather resistant openings is now in 6.1.8 • All guidance on cavity trays, weep holes and stop ends is now in 6.1.9 • Guidance on feature stone surrounds is now in 6.1.10 • Lateral restraint of walls at floor level guidance is now in 6.1.11 • Lateral restraint of walls at roof level is now in 6.1.12 • Connecting to existing structure is now 6.1.13
	102 114	Table for suitability of full fill insulation in various exposure locations made more clear and max 12m requirement made more prominent
	103 115	Further guidance provided on frost resistant brickwork.
	103 115	Reclaimed bricks: A statement has been added to confirm these will not be are not suitable for warranty purposes statement added
	103 115	Additional notes added for batching and mixing for mortars
	107 118	Horizontal spacing of wall ties should be 900mm centres for cavities between 100-150mm wide (previously it was 750mm)
	107 118	Table for spacing of wall ties now ha additional note which reads: 'The design of wall ties for cavity wall

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		construction will need to consider the site specific conditions and location of the masonry panels on the building façade'.
	107 119	Additional Guidance provided on movement joints in wall panels with a mixture of different masonry types
	107 119	The requirements for bed joint reinforcement in critical areas made more clear
	109 126	Made it explicitly clear existing walls and their foundations may be acceptable for warranty (when building at the end of a row of terrace houses for example) however existing foundations that have already been caste may not be acceptable.
	Various	We previously had a sub-section named 'forming openings' in 6.1, 6.2 and 6.3. This has now been changed to 'forming weather resistant openings' with more guidance on gap sizes around window and door frames and the use of finishing trims.
	111 120	The requirement for lintels being provided over recessed meter boxes has been added
	Various	Where cavity barriers are mentioned, updated guidance to reflect the requirement to ensure they are mechanically fixed (Applies to 6.1-6.3)
	114 122	Cavity tray and cavity barrier requirement added where they are above openings near to a compartment floor
	122	New cavity tray requirement: Must have third party certification or be to a relevant BS or BS EN code appropriate for the intended use. Please note: Polyethylene DPC's should not be used as a cavity tray.
6.2 Timber frame	119 128	Note added to say: designers should not mix and match codes or standards for the structural design. This is particularly relevant to Racking resistance.
	120 130	Change in wording for ventilation requirements between cladding on the external skin and the timber frame
	120 129	Guidance added for where breather membranes provides temporary protection
	122 132	Additional guidance provided for packing (Shimming) under sole plate and, the use of structural grout in gaps less than 10mm is now not recommended
	123 133	Minimum width of 37mm for timber studs now stated

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	123 133	Multiple stud clusters that are structural will now require SE design.
	123 133 and 136	Clarity on what we can accept for VCL's
	123 133	Boundary conditions added for where condensation risk analysis is provided
	123 133	Further commentary has been provided on Non timber based boards
	124 134	Further notes added to state Breather membranes need to be self-extinguishing
	124 134	Re-worded our definition of a breather membrane
	125 135	External and party walls with internal lining of Plasterboard on battens with a service zone behind, now require fire test reports confirming suitability of that makeup
	126 136	Removed reference to VCL's needing to be 250 MNs/g
	133 and 136	Made it clear we do not accept MgO boards
	131	Detail for flat roof abutments removed
	131 141	Guidance on cavity trays now more relatable to timber frame
	131 141	New cavity tray requirement: Must have third party certification or be to a relevant BS or BS EN code appropriate for the intended use. Please note: Polyethylene DPC's should not be used as a cavity tray.
	137	New cavity barrier requirement: they are required where they are above openings near to a compartment floor
	132 142	Updated differential movement gap guidance
	144	Guidance now provided for differential movement for balconies
6.3 Light Gauge Steel Frame	138 147	Further clarification about our requirements for Stage 1 and Stage 2 SCI System Certification are provided
	138 147	Further clarification about our requirements of 'off-site' manufactured LGSF are provided
	138 147	Notes added to confirm we do not accept cuts and holes in LGSF systems being made on site – can only be done in a factory

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	144 154	New cavity tray requirement: Must have third party certification or be to a relevant BS or BS EN code appropriate for the intended use. Please note: Polyethylene DPC's should not be used as a cavity tray.
	141 150	Updated guidance on drainage and ventilation of the cavity
	141 150	Guidance added for where breather membranes provides temporary protection
	141 150	Removed reference to 250 MNs/g for VCL's
	143 152	Updated guidance on weather seals around external wall openings
	147	New guidance added for accommodating deflection in wall panels
	138 147	New guidance to advice that we cannot accept Light Steel Frame systems which rely on racking resistance of the sheathing board.
	152	New guidance on the use of EPDM seals at opening junctions with external cladding.
	150	New guidance on drainage and ventilation where rainscreen cladding is used in front of the LGSF.
	145 155	Additional point added for wall ties where masonry cladding is specified: 'Wall tie density depends on a number of site specific factors and should be considered by an Engineer'.
	151	New cavity barrier requirement: they are required where they are above openings near to a compartment floor
6.4 Render	149 157	Clarified that Site made render is not acceptable for backs of parapets and chimneys
	160	Guidance now provided for rendering on EWI systems
	153 161	In coastal locations, uPVC or marine grade stainless steel must be used for beads
6.5 Cladding	156 165	Amended guidance on fixings and supports taking the structure it is being fixed to into account
	156 164	Amended guidance on curtain walling so the design also takes the project fire strategy into account when incorporating cavity barriers and fire stops
	156 164	Guidance on sound transfer for curtain walling now includes a line to emphasis particular attention should be paid through wall, vertical and horizontal flanking transmission at various interfaces with the façade.

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	156 165	Stacked windows now mentioned in testing section
	156 165	Additional guidance on site water testing and where tests fail
	156 165	Additional guidance on dead and live loads for rainscreen cladding systems and external sheathing boards
	156 165	Additional guidance on drainage and ventilation provisions for rainscreen cladding systems
	156 165	Minimum cavity widths now provided for rainscreen cladding systems
	156 165	Additional guidance on bimetallic corrosion
	156 165	Additional guidance on sheathing boards and a point to emphasis a breather membrane is always required
	156 165	Additional guidance on EPDM seals and opening junctions with external cladding
	167	Details of our requirements for brick slip systems with different substrates and build ups added
	168	New guidance on EWI systems added
	157 166	Cavity barrier requirement behind external decorative cladding added
	157 166	Updated guidance on fixing of timber cladding boards
	various	Stone cladding sections for 6.1, 6.2 and 6.3 moved to 6.5
	171	Added wind driven rain exposure map
6.6 Parapets	NEW	New sub-section on parapets added
Section 7 Internal Walls		
	Function Requirements 180	Workmanship 1: this has been updated to clarify that our requirement for either a third party approved contractor completes the fire stopping / cavity barriers , OR a suitable quality assurance process is in place to evidence the installation, is applicable to 'all floor levels' of a multi occupancy building which has a floor 4.5m above ground (i.e. not just those parts of the building over 4.5m)
	183, 190, 195	Guidance added for where fire doors are constructed in internal fire resisting walls
	183, 190, 195	Guidance added for Openings for pipes and ducts in internal fire resisting walls

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	164 183	Guidance for minimum masonry thickness to achieve fire resistance moved to section 7.1.2
Section 8 – External Windows and Doors		
		Section renamed 'External Windows and Doors
	Various	Restructure with all general guidance within a new subsection (applicable to all window types). Followed by Sub-sections for specific window types.
	192 202	Additional guidance on the control of condensation
	Various	Guidance on gap sizes around windows of different materials made more clear and concise with the use of a table.
	204	Additional guidance on finishing trims
	204	Additional guidance on the use of sealants
	202	Additional guidance on checked rebated reveals
	Various	New guidance on fixing type, fixing substrate penetration etc. for windows and doors
	184 208	Updated guidance for certification requirements for uPVC windows and doors: External uPVC windows and doors shall have evidence of certification confirming weather-tightness rating as detailed within BS 6375.
	210	Additional guidance on window and glazing beads
	210	Additional guidance on the installation of glazing for timber windows
	211	Recommendations added for protection of timber windows and doors during the build process
	212	New sub-section on aluminium and steel windows
	215	New sub-section on stacked windows
	217	New sub-section for bi-fold doors
	218	New guidance for lintel provisions for top hung Bi-Fold Doors
Section 9 - Stairs		
	Various	Section reorganised so general guidance for all stair types present at the start of the section and guidance relating to different construction types present in later sub-sections
	Various	Existing diagrams updated to improve clarity and additional diagrams added
	224	Additional guidance around external stairs and their construction

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	226	Additional guidance for timber stair fixings provided
	226	Additional general guidance for the construction of timber stairs
	226	Additional guidance for protection of timber stairs
	228	Additional guidance around concrete and steel stairs provided within new sub-sections
Section 10 – Upper floors		
	Functional requirements 230	Workmanship 1: this has been updated to clarify that our requirement for either a third party approved contractor completes the fire stopping / cavity barriers , OR a suitable quality assurance process is in place to evidence the installation, is applicable to 'all floor levels' of a multi occupancy building which has a floor 4.5m above ground (i.e. not just those parts of the building over 4.5m)
	251	New guidance provided for plywood boarding of joists
	251	Guidance provided on protection of floor decks against damage and weather
	Various	Deflection of floors text reworded to improve clarity
	Various	Reference to Eurocode 5 removed for engineered joists (as Eurocode 5 is for traditional joists)
	220 251	Additional guidance for sound resistance for internal separating floors provided
	237 267	Additional guidance for Openings for pipes in fire resisting floors
Section 11 – Roofs		
	Various	Clarity provided for close fitting roof coverings
	Various	Statement added confirming we require third party accreditation for LR underlays
	various	Guidance on lap of tiles added to state must be as per manufacturer's specification
	various	Fire classifications now aligned with guidance of Building Regulations
	293	Guidance on composite panels for flat roofs removed as it caused confusion
	Various	Additional guidance for where two roof planes intersect at a cross fall
	Various	Updated guidance on overflows
	299 331	Additional guidance on Liquid applied roof waterproofing kits

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	303 335	Further clarity around approved installers for flat roofs provided
	335	Guidance on periodic inspections provided
	303 335	Additional guidance for testing of EPDM roofs and choosing the correct technique
	303 335	New guidance added for testing of flat roof membranes for developments involving our Major Projects Team
	303 335	Updated guidance for testing of flat roof membranes where an enhanced risk is identified during the Site Risk Assessment stage.
	303 335	Voltage field mapping added as a test method for methods of testing a flat roof
	303 335	High voltage electrical discharge test method guidance updated based on industry practices
	344 NEW	New Guidance provided for single skin metal roofs
	316 352	Definition of a blue roof has been updated
	316 352	Guidance on Active and Smart approaches provided for blue roofs
	316 352	Additional guidance on falls within a blue roof
	316 352	Additional guidance notes on performance required to satisfy warranty requirements and design intent added for blue roofs
	316 352	Under 'limitations of this guidance', text on attenuation cells has been updated
	326 361	Additional guidance for Podium decks and threshold abutments
Section 12 – Balconies and terraces		
		Section renamed Roof Terraces and Balconies. 12.1 covers roof terraces and a new subsection 12.2 covers balconies
	334 366	Definition provided for a roof terrace
	Various	Layout of 12.1 changed slightly to make it more logical and remove repetitive information
	335 369	Limitations of this guidance paragraph updated for guidance on timber structures for roof terraces
	332	Additional notes added for warm deck roof terraces

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	367	
	333 368	Additional notes added for inverted warm deck roof terraces
	334 368	Additional guidance for hybrid roof terraces and interstitial condensation
	339 373	Guidance on overflows updated as per section 11
	341 376 and 379	Additional guidance on fixing of guarding and balustrades and waterproof coverings
	341 376	Guidance on site applied hot melt coverings removed
	375	New guidance on liquid applied waterproofing kits
	341 376	Guidance on lighting protection amended slightly to improve clarity
	342 377	Guidance on level threshold detailing updated to improve clarity
	345 380	Testing requirements water waterproof membranes in line with updates to section 11
	380	Guidance on period inspections for terraces added
	381 NEW	12.2 is now a new sub-section for various types of balconies. This section contains all new guidance
	382	Definitions for balcony types provided
	382	New guidance on durability of balconies
	382	New guidance on the use of timber in balconies
	383 and 384	New guidance on drainage provisions for balconies
	385	New guidance on fire considerations for balconies
Section 13 – Chimneys and Flues		
	390	Additional guidance for the construction of masonry chimneys provided
	390	New guidance provided for masonry chimneys in timber framed buildings
	398 NEW	New guidance provided for false chimney stacks
Section 14 – Driveways and Paving		
	360	Removal of turning facilities and firefighting access references as not related to warranty cover
	360 404	Guidance updated for 900mm clearance for approach route for the principle entrance must be maintained where car charging facilities or other devices are present.

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	366 409	Updated 'limitations for guidance' paragraph on timber decking on access routes
Section 15 – Heating services		
	NEW	This section has been substantially re written as the previous manual only referred to Gas fire heating systems.
	413	15.1 is now associated services for space and water heating
	416	15.2 covers conventional space and water heating systems
	418	15.3 is new guidance on other forms heating systems including low and zero carbon systems
Section 16 – Ventilation		
	377 - 388	Reference to systems 1-4 removed
	380 -382	Passive stack ventilation guidance removed as no longer relevant
	427 and 428	Installation for ventilation systems now in one section now
	428	Additional guidance on ductwork terminating to outside air
Section 17 – Electrical Services		
	393 433	Clarification for number of socket outlets in mixed used areas provided
	393 433	Clarity provided on where measurements of socket and switches heights are from
	393 433	Guidance provided on positioning socket and switches in inside corners
Section 18 – Cold water supply		
		Section renamed to cold water supply
Section 19 – Outbuildings		
		Section to be renamed to garages
	404 444	Additional guidance provided for garage walls
	444	Additional guidance provided where ground gases present.
	405 445	Guidance on fire separation between garages on the boundary
Section 20 – Tolerances		

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		Formerly Section 1, this section has been switched to section 20
	Various	Tolerances bought up to date to match expectations within industry
	450	All tolerances for external facing masonry now in a single table
	450 / 451	Requirements for measuring tolerances for of fair faced natural and cast rough faced masonry added
	454	Guidance added for floor deflection limits
	Various	Drawings updated to improve clarity
Appendix A		
		No major changes
Appendix B		
		No major changes
Appendix C		
	478	Comment added to confirm reclaimed bricks not suitable for warranty
	485	NEW Service life table for various common Structural and Weather proof envelope building components added
	437 473	Stainless steel added as fixing type under oak in construction and timber treatment page
	484	Wind driven rain exposure map re-introduced back in Appendix C
	448 487	Requirements for third party approval updated and also Clarification added to state although some products or systems may have third party accreditation, they may pose an enhanced risk to us and therefore may not be acceptable to us.
	448 487	Updated guidance on ETA certificates – they will need to be reviewed by Technical Standards Department
	449 487	Warranty requirements for timber frame and LGSF repositioned within the Appendix C2. (not within the MMC guidance)
	487	Updated guidance on UKCA acceptance
	488	New guidance for MMC to state where components of a MMC system cannot be accepted (e.g. closed panel systems), the system should be reviewed by our Innovations team

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	488	New guidance added to state MMC systems may require pre-levelling checks prior to delivery on site
	488	New guidance for MMC systems: Where on site zip-up works are required, it is expected that these works will be undertaken by suitability trained staff and overseen by a supervisor directly employed by the system manufacturer as a minimum
	488	Types of MMC systems now have category 1-3 listed next to them for clarification.
	489	New text added for SIP panels: The third party accreditation must also cover how panels interconnect and not just cover a panel in isolation.
Appendix D		
	454 494	Updated definition of former agricultural building
	454 494	Confirmation that Robust details are not applicable to conversions
	454 494	Additional guidance on above ground rainwater disposal
	457 497	Guidance on ventilation to floor voids where new external landscaping is proposed
	461 501	Additional guidance provided on cold deck roofs being retained.

Every care was taken to ensure information in this article was correct at the time of writing (January 2022). Guidance provided does not replace the reader's professional judgement and any construction project should comply with the relevant building regulations or applicable technical standards. For the most up to date LABC Warranty technical guidance please refer to your risk management surveyor and the latest version of the LABC Warranty Technical Manual.