

<b>Building Control Guidance Note</b>	Subject	<b>APPROVED DOCUMENT A – STRUCTURE: SUMMARY OF CHANGES.</b>						<b>21</b>
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**Approved Document A has been revised and comes into effect on the 1<sup>st</sup> December 2004.**

All Building Regulation projects submitted after this date or any existing schemes that have not been fully approved **MUST COMPLY** with the new guidance, unless the project has already started before 1<sup>st</sup> December 2004.

You can view the new Approved Document by using our link on the Building Control Guidance note web page.

## **MAIN CHANGES:**

### **Codes of Practice / Euro codes.**

Document updated to reflect all the latest British Standards and the new Euro Codes together with their national Annexes and to take account of any climatic changes the country may go through.

### **Use of guidance.**

Introduction of reference to authoritative guidance on the design and construction of timber frame and lightweight steel forms of houses. New guidance is soon to be available to support this Approved Document.

### **Amended basic stability requirements for low-rise dwellings.**

Guidance expanded to encompass the stability of the whole building rather than just the roof structure. Traditional cut roofs (especially single and non hipped roofs to detached houses with a pitch greater than 40 degrees) to have diagonal rafter bracing to BS5268 Part 3 and Appendix H of BS 8103 for trussed rafters.

### **Removal of timber tables.**

Sizing of timber members – no tables exist – you must now refer TRADA documentation. Published separately. '*Span Tables for solid timber members i.e. floors, ceilings and roofs (excluding trussed rafter roofs) for dwellings*' Or all timbers to be designed to BS5268 Parts 2 /3 design.

### **Revised map of basic wind speeds in accordance with BS6399: Part 2.**

Revised wind speed tables and maximum permitted heights of buildings.

### **Provision of stainless steel cavity wall ties to all locations.**

Stainless steel wall ties are now required to all locations.

Revised wall ties requirements to cater for the wider wall cavities now being adopted - there are restrictions on use of particular types of wall ties on wider cavities. **NOTE - Butterfly ties only can be used up to max 75mm cavity width.**

Minimum tie embedment into bed joints has been increased for wider cavities.

### **Lateral restraint straps.**

Lateral restraint straps are now called '*tension ties*' and are now required to be 1200mm long.

### **Foundation Depths.**

Now a minimum requirement of 760mm in clays to cover against climatic changes – min 450mm for frost action.

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**Improved guidance on the design and construction of domestic garages / small single storey non-residential buildings and annexes (Max 36m<sup>2</sup> floor area).**

Recommendations have been extensively revised and additional requirements added – similar to BS8103 for low-rise construction.

**SINGLE SKIN WALLS.**

- Walls must be constructed in brickwork or blockwork, min mass NLT 130kg/m<sup>2</sup>, no wall length to be more than 9m.
- Building wall and gable heights are restricted – diagrams provided in document.
- Restrictions are now placed on major openings positions and sizes/combined sizes - if more than 1 opening (max 5m combined size and not higher than 2.1m).
- You cannot position minor openings within 2metres of a major wall opening (i.e. say a door or window cannot be placed within 2 metres of a main garage door opening).
- No opening to be within 390mm of wall corners - unless a pier is provided.
- Min 325mm x 325mm pier sizes required between major openings with all isolated columns to be tied to roof structure.
- Wall piers to at max 3.0 m centres and you cannot have more than 1 opening between wall piers.
- Wall piers (225mm now not acceptable) – **min sizes permitted are 390mm x 190mm OR 327mm x 215mm.**
- Where ties are used to connect piers to walls they should be flat - stainless steel 20 x 3mm (butterfly ties are not acceptable) at 300mm vertical centres.
- There is to be no use of roof space.
- Roof lateral restraint must be provided to walls at rafter / eaves level and at base of any gables (i.e. ceiling level) via 1200mm long tension ties and noggins.
- Walls containing only minor openings – must not have more than 2.4m<sup>2</sup> aggregate opening size.
- **Roof structures must be braced with either rigid sarking / diagonal roof bracing in accordance with BS 5268: Part 3.**
- Annex roofs must be securely fixed to main building and at eaves level.

**Roof Recovering.**

Now defines what is considered to be a significant change in applied loading requiring a roof design check and potential strengthening, i.e. where the roof loading is increased by more than 15%.

Where there is a significant reduction in applied loadings (no loading figure is specified) require additional wind stability and uplift precautions to be taken.

Roof coverings, including transparent or translucent materials (excluding windows of glass in residential buildings with pitch of not less than 15degrees) must be capable of withstanding concentrated imposed loading in British Standard 6399 Part 3.

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**Disproportionate Collapse.**

*This is a significant change and will affect a majority of the major projects and extensions. It is important you consider the implications early on in the design process and involve a structural engineer to advise on ways to achieve compliance.*

As a result disproportionate collapse conditions and requirements must be applied to all building types - (previously this did not apply unless the buildings were over 5 storeys or more). These requirements are intended to ensure that in event of an accident the building will not suffer collapse to an extent disproportionate to the cause.

Buildings have to be sufficiently robust to sustain a limited extent of damage or failure without collapse.

Various different classes of building are defined based on the building type / occupancy and depending upon its class increasingly complex tying, stiffening works and collapse risk assessments have to be carried out.

Detailing is critical to ensure this is resolved - effective vertical / horizontal ties to floor/ columns and walls must be provided as per the specified codes and standards listed in the approved document.

Also your engineer need to carryout systematic risk assessments of the structure by simulating the removal of columns / walls / load bearing walls to confirm that the building will remain stable and free from collapse.