

25th

ANNUAL FIRE SAFETY CONFERENCE

23 & 24 February 2023
Armagh City Hotel

“The changing face of fire safety”

Marking **50** years of the Building Regulations in
Northern Ireland

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Updates to Fire safety standards in Building Regulations

Damian Fairley BEng MSc C.Build E MCABE
Building Standards Branch
Dept. of Finance

The Building Regulations (NI) Order 1979 (as amended)

Article 3

“The Department may make regulations to be known as building regulations”

The Building Regulations (Northern Ireland) 2012

STATUTORY RULES OF NORTHERN IRELAND

2012 No. 192

BUILDING REGULATIONS

The Building Regulations
(Northern Ireland) 2012

Made - - - - 15th May 2012
Coming into operation - 31st October 2012



4 Amendments to the 2012 Regs

- The Building (Amendment) Regulations NI 2012
- The Building (Amendment) Regulations NI 2014
- The Building (Amendment) Regulations NI 2016
- **The Building (Amendment) Regulations NI 2022**

The Building Regulations

- 103 Regulations + 3 Schedules

Parts A – V

- Part A – Interpretation and general
- Part B – Materials and workmanship
- Part C – Site preparation and resistance to contaminants and moisture
- Part D – Structure
- **Part E – Fire safety**
- Part F – Conservation of fuel and power
- Part G – Resistance to the passage of sound
- Part H – Stairs, Ramps, guarding and protection from impact
- Part J – Solid waste in buildings
- Part K – Ventilation
- Part L – Combustion appliances and fuel storage systems
- Part M – Physical infrastructure for high speed electronic communication networks
- Part N – Drainage
- Part P – Sanitary appliances, unvented hot water storage systems and reducing the risk of scalding
- Part R – Access to and use of buildings
- Part V - Glazing

Functional or Prescriptive Regulations

- Prescriptive Regulation

Prescribes the requirement in the Regulation.

e.g. Regulation 55 'Provision of stairs in dwellings'

"Within every dwelling of more than one storey there shall be provided between such storeys access by means of a stair complying with the relevant provisions in this Part"

- Functional Regulation

"Any regulation that sets a requirement but does not prescribe in the regulation a specific standard that should be attained"

e.g. Regulation 66 'Ventilation of car parks'

"Adequate means of ventilation shall be provided for every space in a car park"

Usually contain adequate or reasonable.

The Building Regulations (NI) 1973

- Part E – Structural Fire Precautions
- E1 – E20 written prescriptively
- All the detail within the Regs and Schedules to the Regs
- No Technical Booklets

FOR REFERENCE ONLY

The Building (Amendment) (No. 3) Regulations (NI) 1975

- Still had Part E – Structural fire Precautions E1 – E20
- Part EE – Means of escape in case of fire EE1 – EE4
- EE3 – Provision of means of escape

“In any building or part of a building to which this regulation applies there shall be provided-

- (a) means of escape consisting of exits and escape routes of such number, size, layout, design and construction as may reasonably be required in the circumstances of the case to enable the occupants to reach a place of safety in the event of fire; and*
- (b) such other works as may be necessary for securing that such means of escape can be safely and effectively used at all material times.”*

- EE4 – First d-t-s provisions for EE3 for flats/shops/office blds:

British Standard CP3 Chapter IV (Precautions against fire) Part 1, 2 and 3 respectively

The Building Regulations (NI) 1994

- Part E – Fire safety
- Regs E1 – E11
- Part E Regs written in a functional way (same today)
- E2 Means of escape

“A building shall be so designed and constructed that in the event of a fire there is-

(a) where appropriate, adequate means of automatic detection;

(b) adequate means of giving warning; and

(c) adequate means of escape, which can be safely and effectively used at all material times.”

- Dts provisions (e.g. TBE, BS 5588 series, HTM series, BB7) given for each Reg
- e.g. Technical Booklet E cited as the dts for Reg E2 for dwellinghouses to give what is adequate and BS 5588-1 used as dts for E2 for flats as to what was adequate
- A lot of the prescriptive detail in previous E1 – E20 moved into TBE

The Building Regulations (NI) 2012

- Part E – Fire safety
- Regs 32 – 37
- E2 ‘Means of escape’ became Reg 33 ‘Means of escape’
- Regs 33 – 37 all functional
- Technical Booklet E – Fire safety (guidance)
 - Technical provisions in guidance offered as what is adequate for the common situations
 - TBE provisions now ‘should’ do as opposed to ‘shall’ do
- Dts Regs offering dts solutions removed
- No guarantee of compliance, presumption of compliance

Today - Part E – Fire safety

Regs 32 – 37

- Reg 32 – Application and interpretation
- **Reg 33 – Means of escape**
- Reg 34 – Internal fire spread – Linings
- Reg 35 – Internal fire spread – Structure
- Reg 36 – External fire spread
- Reg 37 – Facilities and access for the Fire and Rescue Service

Regs 33 – 37 all “Functional Regulations” – Do not specify the standard to be attained rather require what is ‘adequate’ or ‘reasonable’

Reg 33 – Means of escape

“A building shall be so designed and constructed that in the event of a fire there is-

- (a) Where appropriate, adequate means of automatic detection;*
- (b) Adequate means of giving warning; and*
- (c) Adequate means of escape, which can be safely and effectively used at all material times.”*

Adequate will vary depending on type of building, circumstances involved.

What is adequate?

Technical Booklet E – Fire safety

- Article 5A – “*The Department may prepare guidance with respect to the requirements of any provision of building regulations*”
- TBE written to Part E requirements
- Gives technical provisions (guidance) as to what is adequate
- One way to demonstrate compliance with Regs
- If followed there is a ‘presumption of compliance’ with the Regs for common situations
- May be used as the benchmark of performance to comply with Regs
- Any other solution will have to demonstrate equal level of performance



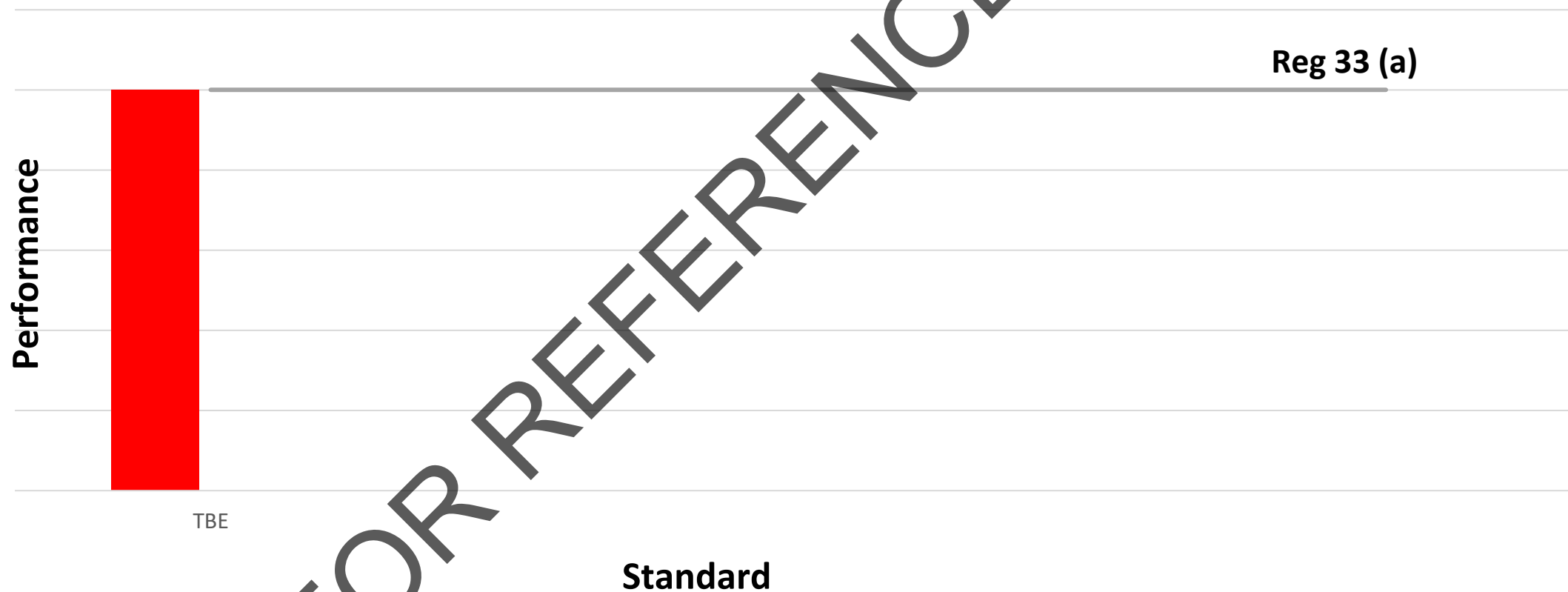
E.g. 2 Storey Dwellinghouse

- What is adequate means of detection in TBE for a 2 storey dwellinghouse for compliance with Reg 33 (a)?

TBE asks for a Fire alarm system to BS 5839-6 of Grade D (D2 in future) Cat. LD2 including smoke alarm in principal habitable room and heat detector in each kitchen

2 storey dwellinghouse

Compliance with Reg. 33 (a)



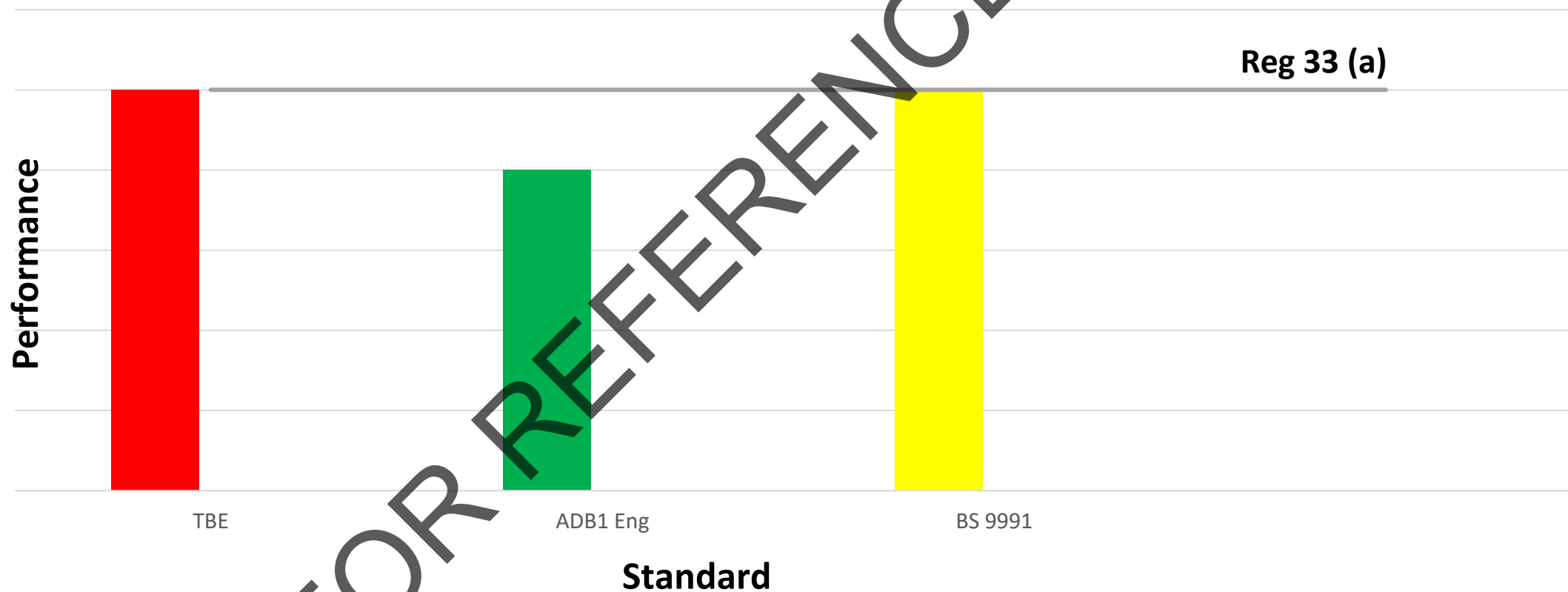
2 storey dwellinghouse

Compliance with Reg. 33 (a)



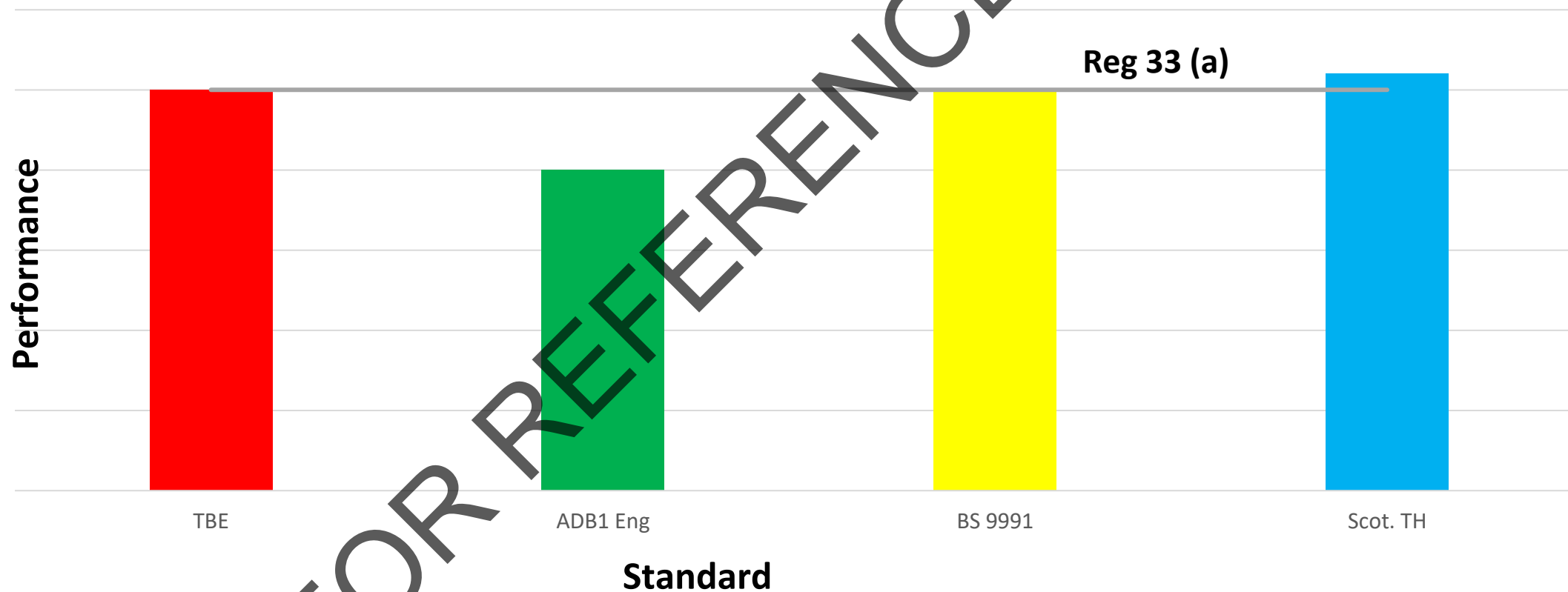
2 storey dwellinghouse

Compliance with Reg. 33(a)



2 storey dwellinghouse

Compliance with Reg. 33 (a)



2 storey dwellinghouse

Compliance with Reg. 33



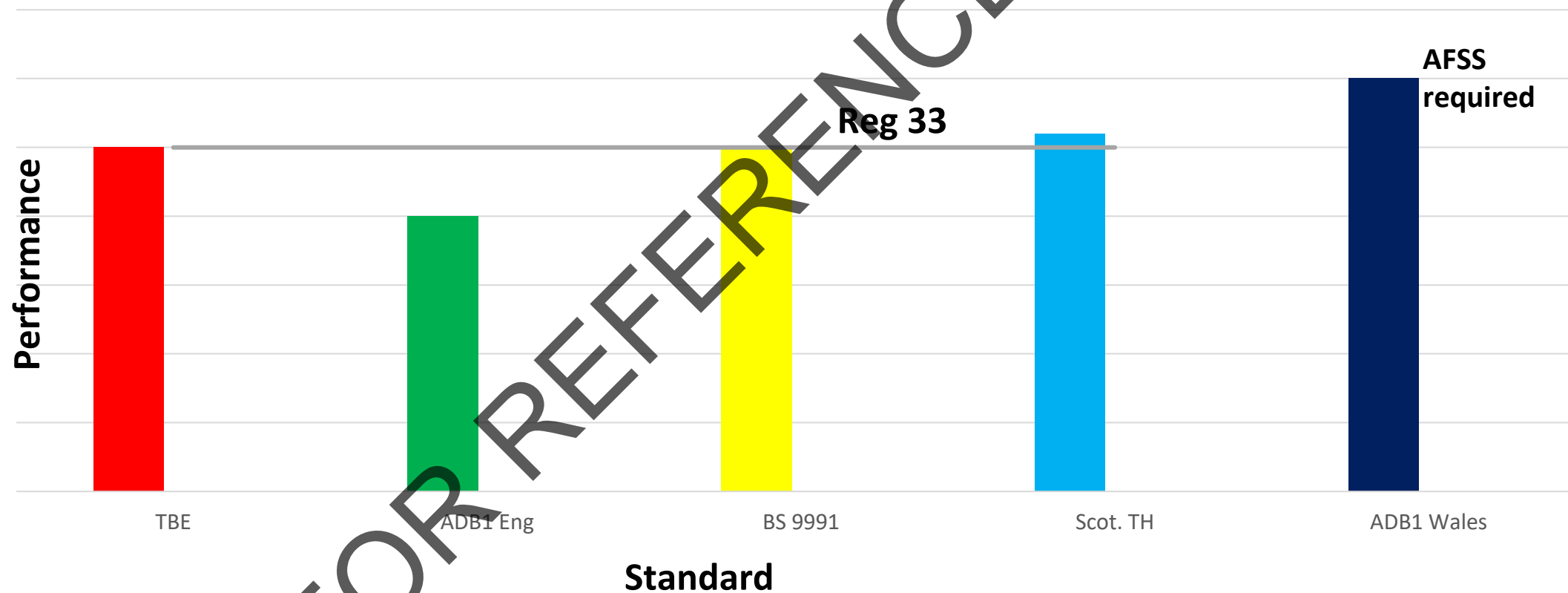
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Compliance with Reg. 33 (a)



2 storey dwellinghouse

Compliance with Reg. 33



2 storey dwellinghouse

Compliance with Reg. 33 (a)



2 storey dwellinghouse

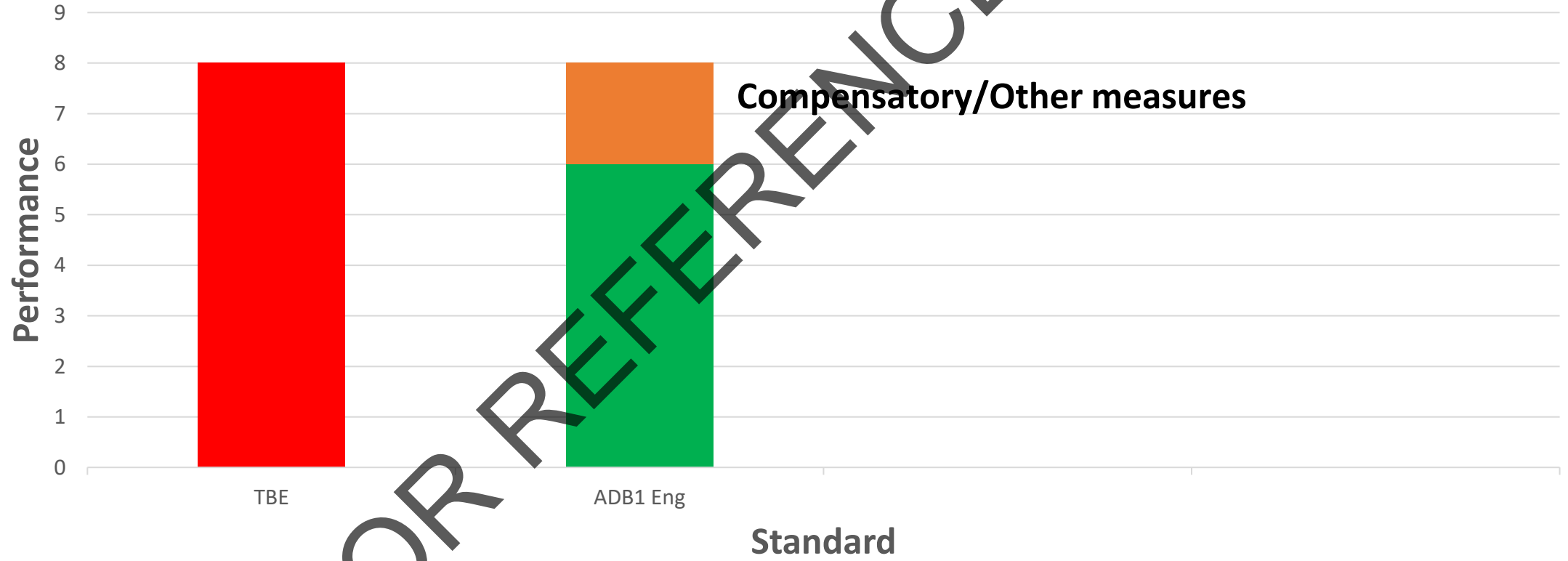
Compliance with Reg. 33

Reg 33

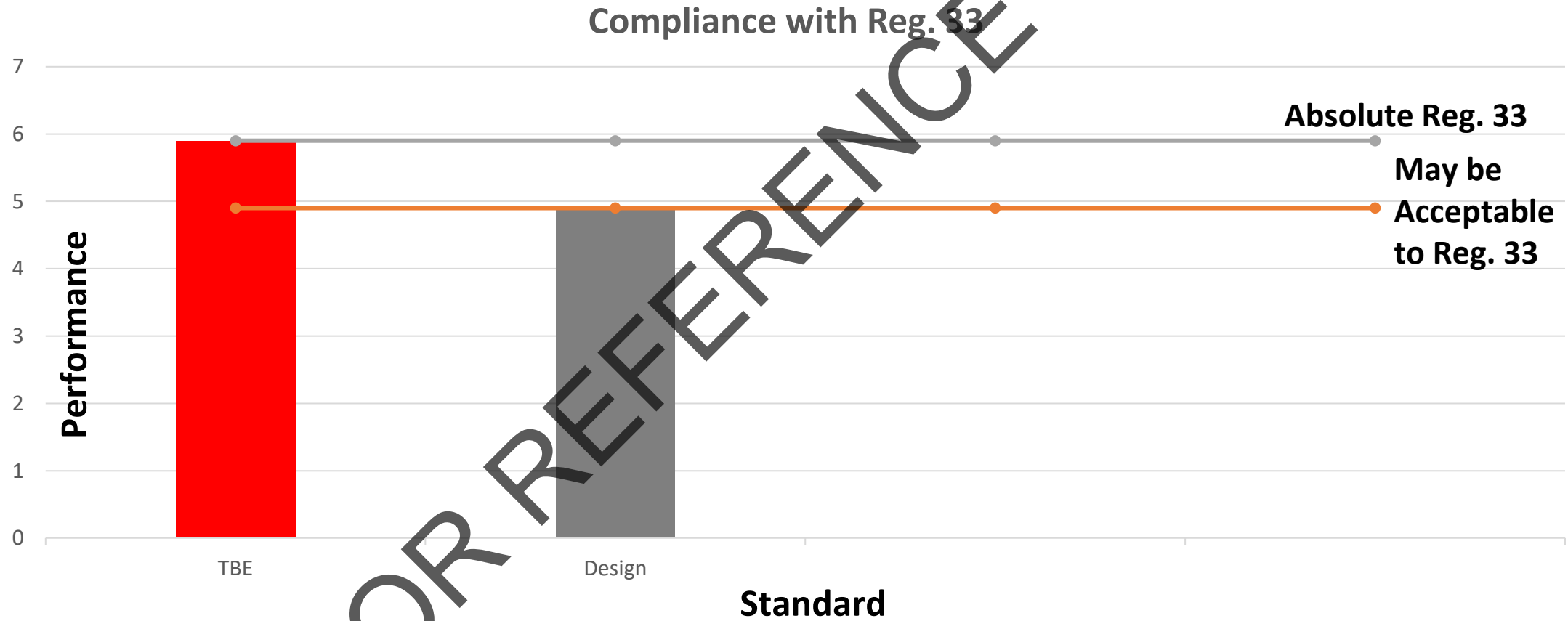


2 storey dwellinghouse

Compliance with Reg. 33



TBE Guidance not an Absolute



The Building (Amendment) Regulations NI 2022

- SR made – 28 February 2022
- Coming into operation – 01 April 2022

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STATUTORY RULES OF NORTHERN IRELAND

2022 No. 71

BUILDING REGULATIONS

**The Building (Amendment) Regulations (Northern Ireland)
2022**

Made - - - - 28th February 2022
Coming into operation - 1st April 2022

The Department of Finance^(a), in exercise of the powers conferred by Articles 3, 5(1), 5(2), 5A(1) and 9 of, and paragraphs 1, 2, 4, 5, 9, 17C, 21 and 22 of Schedule 1 to, the Building Regulations (Northern Ireland) Order 1979^(b) and now vested in it^(c), and after consultation with the Building Regulations Advisory Committee and such other bodies as appear to be representative of the interests concerned^(d), makes the following regulations:

Citation and commencement

1. These regulations may be cited as the Building (Amendment) Regulations (Northern Ireland) 2022 and shall come into operation on 1st April 2022.

Interpretation

2. In these regulations “the principal Regulations” means the Building Regulations (Northern Ireland) 2012^(e).

Transitional provisions

3.—(1) The principal Regulations shall continue to apply to—

- (a) plans deposited or a building notice given in accordance with the principal Regulations before the commencement of these Regulations;
- (b) building work carried out in accordance with such plans or such building notice with or without any departure or deviation from those plans or that building notice; and
- (c) building work completed before the commencement of these Regulations,

as if the amendments effected by these Regulations had not been made.

(2) In paragraph (1)—

- (a) “building notice” means a notice given under regulation 9 (Giving of notices and deposit of plans) of the principal Regulations; and
- (b) “building work” has the same meaning as in the principal Regulations.

(a) 2016 c.5 (N.I.)
(b) S.I. 1979/1759 (N.I. 16) as amended by S.I. 1990/1510 (N.I. 14), Article 38(1) and Schedule 1, Part II and 2009 c.4
(c) See S.R. 1999 No.481 Article 6 and Schedule 4, Part II
(d) S.I. 1979/1759 (N.I. 16); Article 5(4)
(e) S.R. 2012 No. 192 as amended by S.R. 2012 No. 375, S.R. 2014 No. 44 and S.R. 2016 No. 412

The Building (Amendment) Regs NI 2022

Regulations

Part A – Interpretation and general

Part B – Materials and workmanship

Part C – Site preparation and resistance to contaminants and moisture

Guidance

Technical Booklet B – Materials and workmanship

Technical Booklet C – Site preparation and resistance to contaminants and moisture

Technical Booklet E – Fire safety

Part B – Materials and workmanship

New Regulation 23(2)

“Subject to paragraph 3, building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2 - s1, d0 or Class A1, classified in accordance with BS EN 13501-1:2018.”

‘Relevant building’ in Regulation 23(2)

‘Relevant building’ as defined in 23(4)

“A building with a storey (not including roof top plant areas or any storey consisting exclusively of plant rooms) at least 18 metres above ground level and which –

- (a) Contains one or more dwellings*
- (b) Contains an institution or*
- (c) Contains a room for residential purposes (excluding any room in a hostel, hotel or boarding house)”*

Relevant buildings

- Blocks of flats
- Hospitals
- Care Homes
- Nursing Homes
- Student Accommodation – Halls of residence

(All with a top storey over 18m in height)

Regulation 23(2)

‘Reaction to fire’ performance

- A1 – Non-combustible
- A2 s1, d0 – Limited combustibility with no smoke or flaming droplet production

‘s’ and ‘d’ are sub-categories for smoke production and flaming droplets respectively

- European Classifications established using small scale fire tests and classified using BS EN 13501-1:2018 – Standard for classifying construction products in terms of ‘reaction to fire’
- Combustible materials cannot achieve these classes hence the term ‘Ban on combustible materials’

Compliance with 23(2)

- 23(2) is a prescriptive regulation
- Materials must be A1 or A2 s1, d0
- Materials offering National classifications unacceptable
- BS 8414 system test as alternative not an option
- Assessment based on a BS8414 test not an option

Summary of Fire safety changes in 2022 Amendment

Regulations

- New Regulation 23(2) in Part B (Materials and workmanship)
- Applies to high rise (storey over 18m) 'relevant buildings' only
- Sets requirements for materials to be used in external walls and specified attachments
- Materials to be Class A1 or A2 s1, d0
- An exemption list in 23(3) for small components

Guidance

- New guidance in TBE to Regulation 23(2)
- Clarified guidance in TBE to Reg. 36 for external walls

The Building (Amendment) Regulations NI 2023? - What's coming

- New functional Regulation for 'Provision of fire safety information' (similar to Reg 38 in England)
- New prescriptive Regulation for 'Provision of suitable automatic fire suppression system' in certain buildings
- TBE amendments including
 - Measures to assist FRS in search and rescue and firefighting operations (Firefighting shaft provisions, fire mains provisions, dry riser height limitations, evacuation alert sounder systems, wayfinding signage, secure information boxes)
 - Moving to BS 9991 for MOE for flats

What's coming after that

- Move to European classification system only in TBE for 'fire resistance' and 'reaction to fire' – Do away with current dual system
- Height limitation on single stair for multi dwelling residential buildings
- Complete revision of Section 2 (MOE) in TBE including:
 - Higher level of detection in dwellings (LD2) – bedrooms/all habitable rooms?
- Revision to 2022 Amendment:
 - Scope of 'relevant buildings'
 - New 'ban' for MCM panels with core of 35MJ/kg or more (calorific value) on any building irrespective of height (Prescriptive?)
 - New requirement for materials used on domestic residential blds 11- 18m (Reg. or guidance)
- New consolidated TBE

Recap & Question

- 1973 – Prescriptive based Regs for Part E ‘Structural fire precautions’
- 1975 – Prescriptive based Regs for Part E ‘Structural fire precautions’ and Part EE ‘Means of escape’
- 1994 – Functional Regs for Part E ‘Fire safety’ + Technical Booklet TBE (dts)
- 2012 – Functional Regs for Part E ‘Fire safety’+ TBE (guidance)
- 2022 – New prescriptive Reg. for materials used on external walls/attachments
- 2023 – New prescriptive Reg. for AFSS in certain buildings?
- Post 2023 – Another prescriptive Reg. for MCM panels of certain calorific value cores (e.g. unmodified PE core)?
- Why the move to more prescriptive Regs?

Thank You

www.finance-ni.gov.uk/topics/building-regulations-and-energy-efficiency-buildings