

Safer by Design

Where the numbers come from

Statistics and methodology November 2019



Health and Safety risks in buildings

Table 11 Risk index categories for domestic health and safety hazards Domestic Health and Safety Hazard Index Category Hygrothermal conditions Slips, trips and falls on the level 78 Particles and fibres 78 Radon 78 Environmental tobacco smoke Slips, trips and falls on stairs, ramps and escalators Security and the effects of crime Noise 70 House dust mites 69 Burns and scalds 68 Fires in buildings 67 В Carbon monoxide 66 Fungal growth 62 Lighting 62 Space and crowding 62 Lead 61 Slips, trips and falls from windows, balconies and roofs 60 Oxides of nitrogen 60 Toilet facilities 60 Volatile organic compounds 59 Collision/entrapment involving doors 59 Sources of infection other than toilets 58 Electrical hazards 56 Drowning 56 Collision/entrapment involving windows Sulphur dioxide Cockroaches 48 Structural collapse and falling objects 48 Explosions in buildings 48 Land contamination including landfill gas 41 Biocides 26 Collision/entrapment involving lifts and escalators Electromagnetic fields NBRA

Review of Health and Safety Risk Drivers (2008) **BD 2518**

Key to the risk categories

A Highest risk category

Second risk category

Third risk category
 Fourth risk category

NBRA No Basis for Risk Assessment

http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/publications/planningandbuilding/reviewhealthsafety



Table 25: Likelihood values for each hazard at each level of risk

Hot surfaces and materials* 6 15 182 230 Lead		Likelihood values			
Falls associated with stairs and steps* 32 66 245 256 Falls on the level 18 49 135 160 Falls between levels* 6 15 1,693 2,132 Fire*	Hazard	Category	1 Actionable	Average	
Falls bot wheelevels* 6 15 1,693 2,132 Fire*	Excess cold	58	744	2,152	36,541
Falls between levels* 6 15 1,693 2,132 Fire*	Falls associated with stairs and steps*	32	66	245	256
Collision and entrapment* 2 5 39 42 Falls associated with baths etc* 18 53 4,026 4,026 Dempend mould-growth — 2— 40 — 464 — 500 — Hot surfaces and materials* 6 15 182 230 Lead — 5— 9— 58,400 190,000 — Entry-by intruders — 2— 40 — 40 — 40 — 400 — 400 — Redow(radiation) — 910 — 1,020 — 10,000 — 40,000 — Demsetic hygiene, reanitation and drainage — 0— 49 — 7,750 — 24,040 — Demsetic hygiene, pestoand-refuse — 4— 3 — 5,685 — 5,505 — Growding and space — 156 — 341 — 8,000 — 8,000 — Maisa — 2 — 9 — 000 — 1,000 — Carbon monoxide and fuel combustion products 2 3 1,250 1,250 — Structural collapse and failing elements — 6— 43 — 11,770 — 44,764 — Electrical husards — 20 — 69 — 16,669 — 46,669 — Position and appearability of amenities (organomics) — 45 — 12,025 — 47,679 — Uncombusted fuel gas — 22 — 65 — 83,784 — 490,000 — Lighting — 6— 41 — 50,825 — 60,825 — Matesaupply-fordomestic pusposes — 9 — 423,649 — 4,444,406 — Excessive at — 326 — 652 — 900,000 — 190,000 —	Falls on the level	18	49	135	160
Collision and entrapment* 2 5 39 42 Falls associated with baths etc* 18 53 4,026 4,026 Deampend would growth — 2 — 40 — 464 — 500 — 464 — 600	Falls between levels*	6	15	1,693	2,132
Falls associated with baths etc* 18 53 4,026 4,026 Bumpand would growth	fire*	- 56		4,760	5,704
Hot surfaces and materials* 6	Collision and entrapment*	2	5	39	42
Hot surfaces and materials* 6 15 182 230 Lead	Falls associated with baths etc*	18	53	4,026	4,026
Lead	Dempend-mould-growth — — — —			464	500
Entry-by introders	Hot surfaces and materials*	6	15	182	230
Redom/radiation	Lead	_ 5	9	58 <mark>,400</mark>	
Description	Entry by introders			— — 40 —	100
Foodesfety	Rudon (adiation) — — — —	910-	- 1,02 0 		10,000
Domestic hygiene, peste and refuse 4— 3 5,585 —5,585 Frowding and space 155 —91 —8,600 —8,600 —8,600 Noise 2 —9 —000 —1,00	Personal hygiene, canitation and drainage		19	7,750 —	
Growding and space 156 311 8,000 -8,000 Moise 2 9 000 1,000 Carbon monoxide and fuel combustion products 2 3 1,250 1,250 Structural collapse and fulling elements 6 13 11,470 -14,701 - Electrical hazards 20 69 -16,869 -46,869 - Position and operability of amenities (argonomics) 0 -15 -12,925 -17,679 - Uncombusted fuel gas 22 55 83,784 490,000 - Lighting 6 -11 -50,825 -50,826 - Watersupply for domestic purposes 5 -9 1,423,649 4,414,406 - Excessible 326 -900,000 150,000 -	Foodsefety		19	4,960 —	
Noise 2 9 600 1,000 Carbon monoxide and fuel combustion products 2 3 1,250 1,250 Structural collapse and failing elements 6 43 11,470 44,704 44,704 Clectrical hazards 20 59 16,869 46,369 46,369 Position and operability of amenities (ergonomics) 0 45 12,925 47,679 40,000 Uncombusted fuel gas 24 55 83,784 490,000 40,000 Lighting 6 41 50,925 50,925 50,925 Watersupply for domestic purposes 5 9 1,423,649 4,414,406 Excessibility 326 326 900,000 150,000	Domestic hygiene, peste and refuse		3	- 5,585	— —5,585 — —
Carbon monoxide and fuel combustion products 2 3 1,250 1,250 Structural collapse and failing elements 6 43 11,470 44,761 — Electrical hazards 20 59 16,869 — 45,869 — Position and operability of amenities (organomics) 0 45 12,925 — 47,679 — Uncombusted fuel gas 22 65 83,784 490,000 — Lighting 6 41 50,825 50,925 — Watersupply for domestic purposes 5 9 1,423,649 4,414,406 — Excessfleat 326 652 900,000 150,000 —	Growding and space	155	311	— 8 ,0 00 —	8,000
Structural collapse and failing elements 6 -13 -11,470 -14,701 - Electrical hazards 20 -69 -16,869 -46,869 - Position and operability of amenities (argonomics) 0 -45 -12,925 -17,679 - Uncombusted fuel-gas 22 -65 -83,784 -490,000 - Lighting 6 -11 -50,925 -50,926 - Watersupply for domestic purposes 5 -9 1,423,649 -4,414,406 - Excessfleat 326 -652 -900,000 -150,000 -	Noise	_ 2	9	900	1,000
Electrical hazards 28 59 16,869 -16,869 - Position and operability of amenities (organismics) 8 -15 -12,925 -17,679 - Uncombusted fuelgas 22 -65 -83,784 +80,000 - Lighting 6 -11 -50,925 -60,925 - Watersupply for domestic purposes 5 -9 -1,423,649 -4,414,406 - Excessfleat 326 -852 -900,000 -150,000 -	Carbon monoxide and fuel combustion produc	ts 2	3	1,250	1,250
Position and operability of amenities (organismics)	Structural collapse and failing elements		13	11,170 —	— —14,701 — —
Uncombusted fuelgas 22 55 83,784 480,000 — Lighting 6 41 50,825 50,826 — Matessupply-for demestic purposes 5 9 1,423,649 4,414,406 — Excesshear 326 652 900,000 150,000 —	Electrical hazards	20		16,069 —	
Lighting —<	Position and operability of amenities (organism	ics) 8 —	— — 15 — •	12,925 —	— —17,6 7 9 — —
Watersupply-for-demestic purposes 5 9 1,423,649 4,414,406	Uncombusted fuel-gas— — — —	27	55	83,784	
Excess heat 326 352 300,000 150,000	Lighting — — — — — —			50,825	50,835
	Water-supply-for-domestic purposes	_ = _	9	1,423,549	4,414,405
Fundamental	Excessileat	326	-652	900,000	- 13 0,660
	Emplosions		229	156,528	456,538

Different spread of harms for HHSRS Category 1 hazards only.

Consider hazards where BR 2010 likelihood:

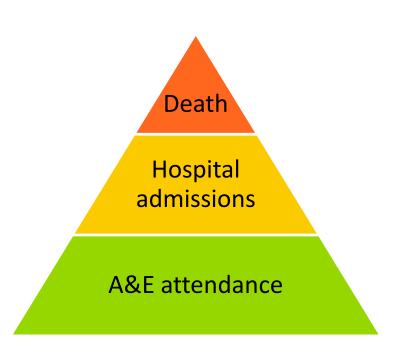
- Likelihood > 1:5,000
- Accidental injury related

Table 25, from FB81 The Full cost of poor housing

https://www.brebookshop.com/details.jsp?id=327672



How can we measure them (available evidence)



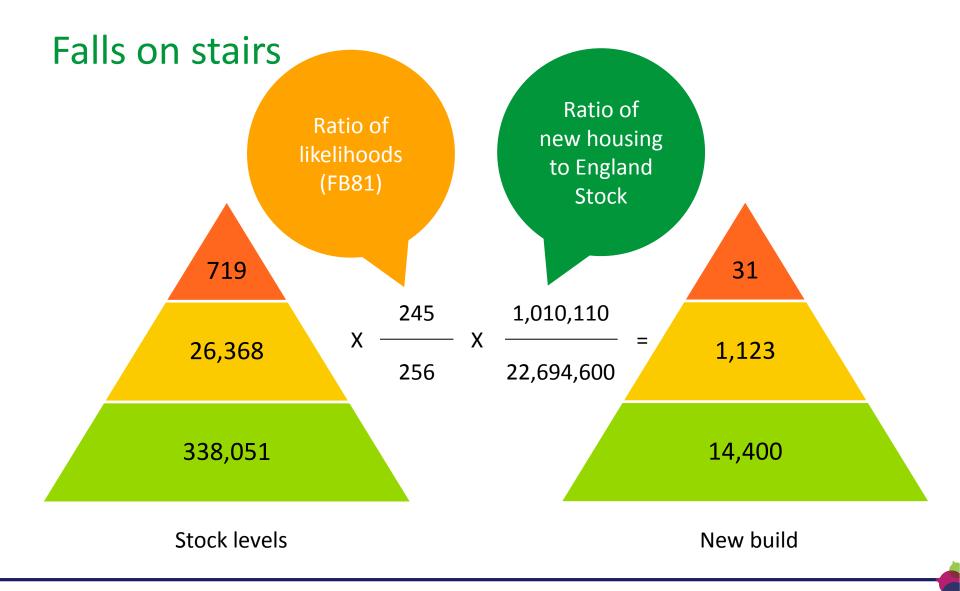
Levels of harm

- Deaths per annum (ONS, 2016)
- Hospital admissions (HES, 2016)
- Visits to A& E (HASS approximation)

Average to New build

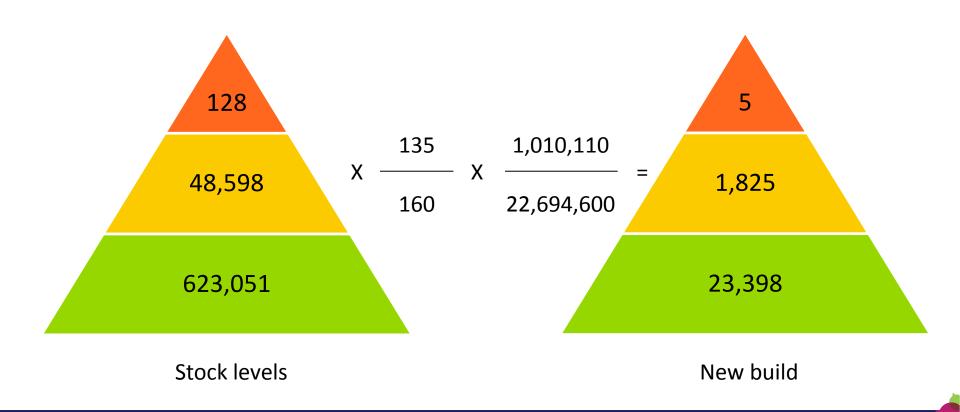
- Different likelihood
- Changing spread of harms
- Smaller number on homes
- New risks introduced





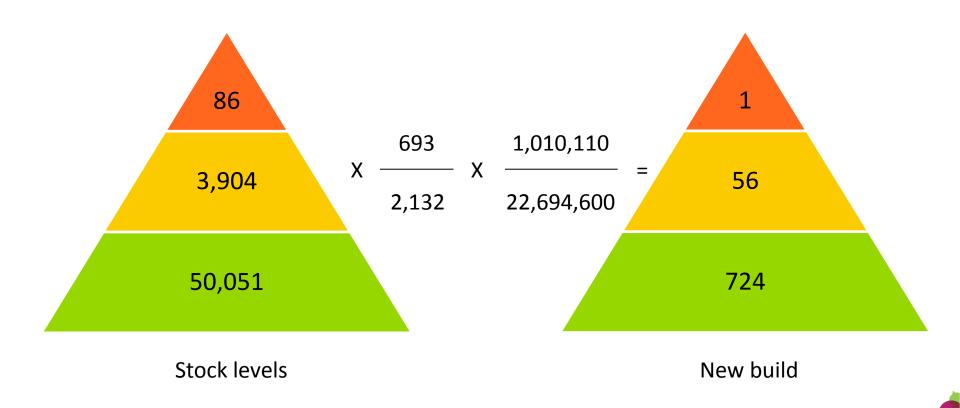


Falls on the level



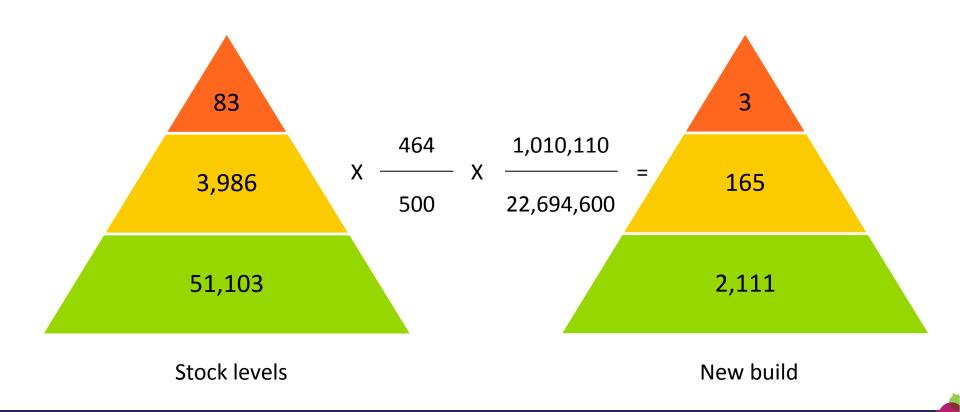


Falls between levels



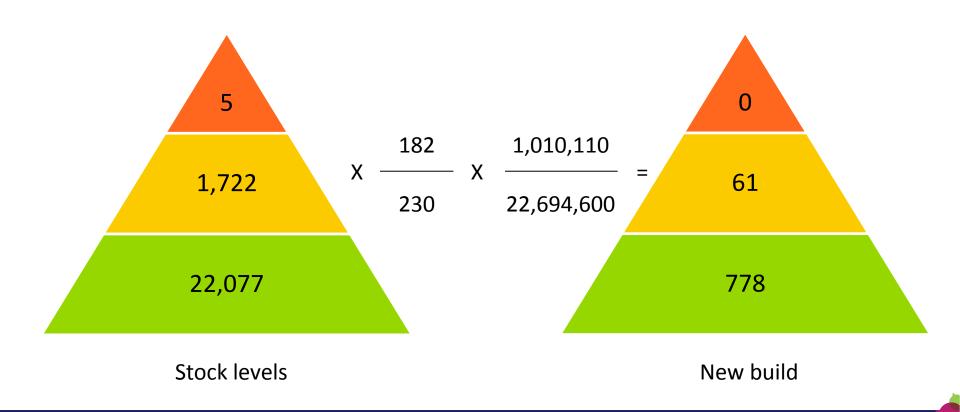


Falls in bathrooms (estimate)



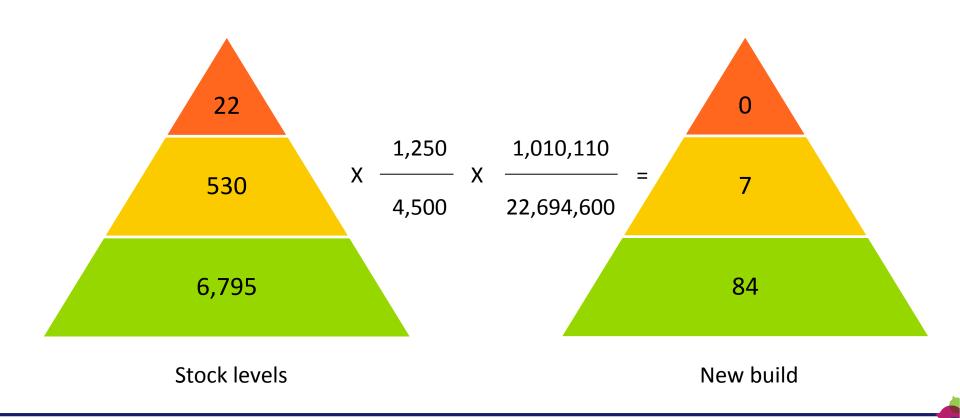


Burns – Hot surfaces





Carbon Monoxide Poisoning





Entrapment in doors

