

## Summary of Legislative Incentives for Fire Sprinklers in New Buildings<sup>†</sup>

Construction Alternatives are in red

	Major airports sprinklered?	Places of assembly	Shopping Centres	Industry	Warehouses	Hotels	Care Homes	Hospitals	Teaching Establishments	Residential Accommodation	Offices	Car Parks
Austria	No		>2,400m <sup>2</sup> across 3 or more storeys; >3,000m <sup>2</sup>	>5,000m <sup>2</sup> or >7,500 m <sup>2</sup> with fire resistance	>1800m <sup>2</sup> or stored goods height > 9m	>22m reduced fire resistance		>22m reduced fire resistance		>22m reduced fire resistance	>32m high	>32m high fire detection or to reduce air changes by 75% with mechanical ventilation; >4800m <sup>2</sup>
Belgium	Yes	>3,500m <sup>2</sup> >2,500m <sup>2</sup> if Floor >10m	>2,000m <sup>2</sup>	>25,000m <sup>2</sup> and < 350 MJ/m <sup>2</sup> >10,000m <sup>2</sup> and > 350 MJ/m <sup>2</sup> >5,000m <sup>2</sup> and > 900 MJ/m <sup>2</sup>	>5,000m <sup>2</sup>	>3,500m <sup>2</sup> >2,500m <sup>2</sup> if >10m		>3,500m <sup>2</sup> >2,500m <sup>2</sup> & >10m				Automatic enclosed with LPG vehicles
Czech Republic	No	Exhibition halls with compartment > 5,000m <sup>2</sup>	>1,000m <sup>2</sup>	>20m <sup>3</sup> of flammable liquids	Postal stores >800m <sup>2</sup> >50m <sup>3</sup> of flammable liquids	>30m				>8 storeys; >4 storeys & >50 apartments semi-combustible structure & >5 storeys & >30 apartments combustible structure & >3 storeys & >20 apartments		Automatic underground; From 2nd underground floor if >50 vehicles; Capacity >200 vehicles & below assembly buildings
Denmark	Yes	>2,000m <sup>2</sup> <b>&gt;1,000 m<sup>2</sup> without smoke extraction</b>	>2,000m <sup>2</sup> <b>&gt;1,000 m<sup>2</sup> without smoke extraction</b>	>2,000m <sup>2</sup> and >200MJ/m <sup>2</sup> >5,000m <sup>2</sup> other fire load	>2,000m <sup>2</sup> and >200MJ/m <sup>2</sup> >5,000m <sup>2</sup> other fire load		>1,000m <sup>2</sup> sleeping area multi-floor	>1,000m <sup>2</sup> sleeping area multi-floor			Alternative to fire alarm if compartment >2,000m <sup>2</sup>	>2,000m <sup>2</sup> except residential
Finland	Yes	2,400 m <sup>2</sup>	2,400 m <sup>2</sup>	2,000 m <sup>2</sup> if no structural fire resistance; 4,000 m2 with R30 structural fire resistance	2,000 m <sup>2</sup> if no structural fire resistance; 4,000 m2 with R30 structural fire resistance	>56 m; >28 m with R90 structural fire resistance instead of R120; timber-framed hotels 3-8 storeys	Usually required in new & existing care homes following risk assessment; timber-framed care homes 3-8 storeys	>56 m; >28 m with R90 structural fire resistance instead of R120; timber-framed hospitals 3-8 storeys	2,400 m <sup>2</sup>	>56 m; >28 m with R90 structural fire resistance instead of R120; timber-framed apartment buildings 3-8 storeys	>56 m; >28 m with R90 structural fire resistance instead of R120; timber-framed offices 3-8 storeys	Underground >1,500 m <sup>2</sup> ; above ground enclosed >3,000 m <sup>2</sup> ; above ground open 4,500 m <sup>2</sup>
France	No		>3,000m <sup>2</sup> or with restaurant or >10,000kg paint <b>Can increase storage of dangerous goods from 1,000m<sup>3</sup> to 2,000m<sup>3</sup></b>		>3000m <sup>2</sup> and less than 12000m <sup>2</sup> <b>&gt;12000m<sup>2</sup> with risk assessment and approval from Prefect</b>	>200m or >480 MJ/m <sup>2</sup>					>200m or >480 MJ/m <sup>2</sup>	R90 instead of R120 structural fire resistance R60 if no building above Reduce smoke ventilation by a third >3,000 m <sup>2</sup> per floor >2 underground levels
Germany	Yes	>3,600m <sup>2</sup> * total with rooms >400m <sup>2</sup> or >22m high or below ground	>3000m <sup>2</sup> or underground floors >500m <sup>2</sup> <b>60 minutes less fire resistance for walls and ceilings; no need for smoke extraction; can increase travel distance by 35m</b>	<b>Increase compartment area 3-10 times depending on fire resistance and number of storeys</b> 1,800m <sup>2</sup> to 10,000m <sup>2</sup> ; single storey 3,000m <sup>2</sup> to 10,000m <sup>2</sup> ; single storey with 30' fire resistance	>1,200m <sup>2</sup> require 5m aisle >4,500 m <sup>2</sup> Storage > 7.5m high	>3,600m <sup>2</sup> * total with rooms >400m <sup>2</sup> or >22m high			>22m high or >32m high with balconies to prevent external fire spread and rooms <400m <sup>2</sup>	>22m high or >32m high with balconies to prevent external fire spread and rooms <400m <sup>2</sup>	>22m high or >32m high with balconies to prevent external fire spread and rooms <400m <sup>2</sup>	Floors 4m below ground Car parks under other use buildings
Greece		>50 people and >23m	>1,000m <sup>2</sup> per storey Total area >2,500m <sup>2</sup> basement >250m <sup>2</sup>	>2,000 MJ/m <sup>2</sup> or >1,000 MJ/m <sup>2</sup> and >2,000m <sup>2</sup>	>2,000 MJ/m <sup>2</sup> or >1,000 MJ/m <sup>2</sup> and >2,000m <sup>2</sup>	>28m	>100 beds >12m	>100 beds >12m	Basements >250m <sup>2</sup> Boiler rooms	>28m	>20m and >400 people	Underground and >300m <sup>2</sup> or multi-storey
Hungary		Cinemas > 13.65m or >1,000 people	>8.000m <sup>2</sup> >13.65m height		>7,000m <sup>2</sup>	>14m	>3 storeys	If beds >13.65m	>30m	>13.65m	>30m	Multi-floor underground; >13.65m height closed; >20 cars per compartment
Ireland	No		Single storey >4000m <sup>2</sup> All shopping centres	Single storey 14,000m <sup>2</sup> normal and >1,000m <sup>2</sup> high hazard	>30m and phased evacuation						>30m and phased evacuation	
Italy	No	>16,000 m <sup>2</sup> <b>Longer travel distances and narrower escape routes</b>	>16,000 m <sup>2</sup> <b>Longer travel distances and narrower escape routes</b>	>32,000 m <sup>2</sup> <b>Longer travel distances and narrower escape routes</b>	>16,000 m <sup>2</sup> <b>Longer travel distances and narrower escape routes</b>	>1,000 beds >8,000 m <sup>2</sup> <b>Longer travel distance, narrower escape route</b>	>8,000 m <sup>2</sup> <b>Longer travel distance, narrower escape route</b>	>8,000 m <sup>2</sup> <b>Longer travel, narrower escape route</b>	Basements with fire loading >30 kg/m <sup>2</sup>	Archives >200m <sup>2</sup> or >60kg/m <sup>2</sup> fire load Above ground: -4 floors closed -5 floors open Automatic car parks		Multi-floor underground Above ground: -4 floors closed -5 floors open Automatic car parks
Lithuania	Yes	>5000 people	>1,500m <sup>2</sup>	>2,000m <sup>2</sup> if combustible goods stored	>2,000m <sup>2</sup> or > 5.5m storage height	>26.5m	≥ 42 m or >5000 people	≥ 42 m or >5000 people	≥ 42 m or >5000 people	> 75m	≥ 42 m	Above ground >7m Automatic car parks

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		>3,000m <sup>2</sup> or >3 storeys and >1,000m <sup>2</sup> <b>Single storey no need for 90' structural fire resistance</b> No need for 60' separation between units in centre			>60m high Closed car parks with >20 cars <b>Double compartment to 1,600m<sup>2</sup></b>	If living areas open onto corridors			>60m high Youth accommodation >3 storeys with rubbish stored in building	>225MJ/m <sup>2</sup> >60m high Archives >600m <sup>2</sup> <b>Double compartment: Increase travel distance 1,600m<sup>2</sup> one storey 3,200m<sup>2</sup> multi-storey</b>	Closed or underground with >50 cars	
Luxemburg												
Netherlands	Yes	Firework sales or storage <b>&gt;1000m<sup>2</sup> fire compartment</b>	>1000m <sup>2</sup> fire compartment >10,000 kg dangerous goods	>2,500m <sup>2</sup> fire compartment >10,000 kg dangerous goods	>70m high				>70m high Reduce fire resistance from 30 to 60 minutes or increase travel distance and compartment size or fit fewer hydrants	>70m high	If >1,000m <sup>2</sup>	
Norway	Yes	>1800m <sup>2</sup> one floor	>1,200m <sup>2</sup> multi-floor	>800m <sup>2</sup> unless unusually low fire load	>800m <sup>2</sup> unless unusually low fire load	All new hotels	All new care homes	All new hospitals	All new dwellings with more than two storeys	Compartment >1800m <sup>2</sup>	>1800m <sup>2</sup> one floor	
Poland		>600 people or sports stadia >3000 people	>10,000m <sup>2</sup> one floor >2,500m <sup>2</sup> multi-floor		>55m high				>55m high	>55m high	Underground & >100 cars	
Portugal	No	>28m high >1,000 people >15,000m <sup>2</sup> >2 storeys	>28m high >1,000 people >2 storeys		>9m high >100 people >50 sleeping guests				>28m high >9m, >3,200m <sup>2</sup> >1,000 people	>9m, >3,200m <sup>2</sup>	>1 underground storey	
Slovak Republic		Exhibition halls with compartment > 5,000m <sup>2</sup>	>2,000m <sup>2</sup> one floor >1,000m <sup>2</sup> multi-floor			>300 guests	>800 patients	>800 patients	>500 residents			
Spain	Yes	<b>Increase travel distance 25%</b>	Compartment >1500m <sup>2</sup> and fire load >850 MJ/m <sup>2</sup> Compartment >2500m <sup>2</sup> <b>Increase travel distance 25%</b>	Max. compartment sizes further reduced if the fire load is higher or the building adjoins other buildings Double compartments and reduce structural fire resistance	>3500m <sup>2</sup> & fire load >850 MJ/m <sup>2</sup> Maximum compartment sizes further reduced if the fire load is higher or the building adjoins other buildings	Required if top floor >28m <b>Increase travel distance 25%</b>	Required if top floor >28m <b>Increase travel distance 25%</b>	Increase travel distance 25% <b>Increase travel distance 25%</b>	Top floor >80m <b>Increase travel distance 25%</b>	Top floor >80m <b>Increase travel distance 25%</b>	In automatic car parks	
Sweden	Yes	Performance-based code	Performance-based code	>800 MJ/m <sup>2</sup> and >5,000m <sup>2</sup>	>800 MJ/m <sup>2</sup> and >2,500m <sup>2</sup>	Performance-based but many hotels sprinklered	All new care homes	All new hospitals	Performance-based code	>16 storey buildings and others for performance	>16 storey buildings and others for performance	Performance-based code
Switzerland		<b>Reduction of 30' in compartment fire resistance</b>	Required in department stores and shopping centres >2,400m <sup>2</sup>	<b>Reduction of 30' in compartment fire resistance</b>	<b>Reduction of 30' in compartment fire resistance</b>	Reduction of 30' in compartment fire resistance	Reduction of 30' in compartment fire resistance	Reduction of 30' in compartment fire resistance	Atria >11m, or >3 storeys, or forming compartment >3,600m <sup>2</sup>			
Turkey		Museums, entertainment, eating and drinking places >4,000m <sup>2</sup> ; other assembly places >6,000m <sup>2</sup>	Multi-storey with area >2,000m <sup>2</sup> (new); multi-storey with area >3,000m <sup>2</sup> (existing)	>15,000m <sup>2</sup> , or with easily ignitable and flammable materials >6,000m <sup>2</sup>	>5,000m <sup>2</sup> , or with easily ignitable and flammable materials >1,000m <sup>2</sup>	>21.50m (new); or multi-storey with 100 bedrooms (new) or 200 beds (new and existing)	If higher than 30.50m or >1,500m <sup>2</sup>	If higher than 30.50m or >1,500m <sup>2</sup>	If higher than 30.50m	If new offices higher than 30.50m and in existing offices higher than 51.50m	Enclosed car parks >600m <sup>2</sup> (new) or >1,000m <sup>2</sup> (existing); or if >10 cars brought in by elevator	
United Kingdom	No	If top floor >30m with phased evacuation Multi-storey compartment doubled to 4,000m <sup>2</sup> Structural fire resistance reduced 30' if height <5m or 18m< height <30m. Scotland entertainment compartment >2,000m <sup>2</sup>	In England and Wales for compartments >2000m <sup>2</sup> Sprinkler store room or separate from retail area. Structural fire resistance reduced 30' if height <5m or 18m< height <30m. Required in all Scottish shopping centres	Double max. area per level in multi-floor building to 14,000m <sup>2</sup> if <18m high 4,000m <sup>2</sup> if >18m high. Instead of fire resistance for gallery >10m wide. Structural fire resistance reduced 30' if height <30m.	>20,000m <sup>2</sup> or >18m height Double max. volume per level in multi-floor building to 40,000m <sup>3</sup> (<18m ht.) 8,000m <sup>3</sup> (>18m ht.) 30' less structural fire resistance Scotland >14,000 m <sup>2</sup>	If top floor >30m with phased evacuation	Scotland, Wales all care homes England if >1 bed in a room; instead of door closers.	England must consider sprinklers	Schools: all of Wales; all of Scotland; very common after risk analysis in England	Wales all housing Scotland in buildings above 18m high England in: buildings above 30m -3 storey house with open plan ground floor -four-storey house without 2nd staircase	If top floor >30m with phased evacuation Reduce structural fire resistance by 30' (5m<height<30m)	

<sup>+</sup> Turkey has some requirements in existing buildings

\* Not places of worship, educational establishments, museums