

## Summary of Legislative Incentives for Fire Sprinklers in New Buildings†

	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	>32m  >22m reduced fire resistance		>32m  >22m reduced fire resistance		>32m high  >22m reduced fire resistance	>32m high  >22m reduced fire resistance	>1,600m <sup>2</sup> with natural ventilation instead of 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
Croatia	Yes	As in NFPA 101  Reduction of 30' in compartment fire resistance and one grade in fire reaction class	As in NFPA 101 or TRVB 138  Reduction of 30' in compartment fire resistance and one grade in fire reaction class	Depending on the area and number of connected floors	>9m storage; >1,000 m <sup>2</sup> and >2GJ/m <sup>2</sup> >3,000 m <sup>2</sup> and >1 GJ/m <sup>2</sup>  Alternative to detection and/or smoke ventilation in smaller areas and lower fire loads	>800 m <sup>2</sup> >300 people Extend two-way travel from 35 m to 55m  Extend one-way travel from 10 m to 15m	As in NFPA 101	As in NFPA 101 or TRVB 132	If building designed to NFPA 101 rather than Austrian OIB 2.	30 min less fire resistance and one class lower reaction to fire	30 min less fire resistance and one class lower reaction to fire	As for NFPA 88a or OIB 2.2  Beneath hotels
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> >1,000 m <sup>2</sup> without smoke extraction	>2,000m <sup>2</sup> >1,000 m <sup>2</sup> without smoke extraction	>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
Estonia	Yes	>2,400 m <sup>2</sup>	>2,400 m <sup>2</sup>	>6,000 m <sup>2</sup> ; >4,000 m <sup>2</sup> with fire resistance below 30 minues	>3,000 m <sup>2</sup> ; >1,500 m <sup>2</sup> with fire resistance below 30 minues	>28 m high or floor >24 m; >1,600 m <sup>2</sup> compartment	>four storeys or >800 m <sup>2</sup> compartment	>four storeys or >800 m <sup>2</sup> compartment	2,400 m <sup>2</sup>	>16 storeys or wooden structure 5-8 storeys with reaction to fire below A2-s1,d0	>28 m or floor >24 m; or >2,400 m <sup>2</sup> compartment	Underground >6,000 m <sup>2</sup> ; above ground >8,000 m <sup>2</sup>
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 Can increase storage of dangerous goods from 1,000 m <sup>3</sup> to 2,000 m <sup>3</sup>		>3,000m <sup>2</sup> and less than 12,000m <sup>2</sup> >12,000m <sup>2</sup> with risk assessment and approval from Prefect	>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> 60 minutes less fire resistance for walls and ceilings; no need for smoke extraction; can increase travel distance by 35m	Increase compartment area 3-10 times depending on fire resistance and number of storeys 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 >60m high with balconies to prevent external fire spread and rooms <200m <sup>2</sup>	>22m high or >60m high with balconies to prevent external fire spread and rooms <200m <sup>2</sup>	>22m high or >60m high with balconies to prevent external fire spread and rooms <200m <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		>7,000m2	>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				timber-framed houses >3 storeys; open-plan apartments; double corridor travel distance to 15 m in single stair apartment buildings	>30m and phased evacuation	
Italy	No	>16,000 m <sup>2</sup> Longer travel distances	>16,000 m <sup>2</sup> Longer travel distances	>32,000 m <sup>2</sup> Longer travel distances and	>16,000 m <sup>2</sup> Longer travel distances and	>1,000 beds >8,000 m <sup>2</sup> Longer travel	>8,000 m <sup>2</sup> Longer travel	>8,000 m <sup>2</sup> Longer travel,	Basements with fire loading >30		Archives >200m <sup>2</sup> or >60kg/m <sup>2</sup> fire load	Multi-floor underground Above ground: -4 floors closed

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	Major airports sprinklered?	Places of assembly and narrower escape routes	Shopping Centres and narrower escape routes	Industry larger than 1,000m <sup>2</sup> and narrower escape routes	Warehouses larger than 1,000m <sup>2</sup> and narrower escape routes	Hotels distance, narrower escape route	Care Homes distance, narrower escape route	Hospitals narrower escape route	Teaching Establishments kg/m <sup>2</sup>	Residential Accommodation	Offices	Car Parks
												-5 floors open Automatic car parks Underground & >25cars
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
Luxemburg			>3,000m <sup>2</sup> or >3 storeys and >1,000m <sup>2</sup> Single storey no need for 90' structural fire resistance No need for 60' separation between units in centre			>60m high Closed car parks with >20 cars Double compartment to 1,600m <sup>2</sup>	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> Double compartment: 1,600m <sup>2</sup> one storey 3,200m <sup>2</sup> multi-storey	Closed or underground with >50 cars Increase travel distance 30m to 40m if >20 cars
Netherlands	Yes		Firework sales or storage >1,000m <sup>2</sup> fire compartment	>1000m <sup>2</sup> fire compartment >10,000 kg dangerous goods	Firework storage >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> >28 m high	>28m high >1,000 people >2 storeys			>9m high >100 people >50 sleeping guests					>28m high >1,000 people	>9m, >3,200m <sup>2</sup> >1 underground storey
Romania	Yes	Disco >1,000 m <sup>2</sup>	>1,500 m <sup>2</sup> & >840 MJ/m <sup>2</sup>	>2,000 m <sup>2</sup> & >420 MJ/m <sup>2</sup>	>600 m <sup>2</sup> & >840 MJ/m <sup>2</sup>	>28 m		>28 m			>28 m	Underground with >11 cars except residential lower than 28 m, or >2 underground floors including residential; enclosed above ground with >50 cars or >3 floors or in an assembly building
Serbia	Yes	>1,500 m <sup>2</sup>	>2,000 m <sup>2</sup>	Typically >1,500 m <sup>2</sup> , depending on many factors	Flammable goods	>30m		All new hospitals		>30m	>30m	Enclosed if >1,500 m <sup>2</sup>
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		Yes, depending on many factors	>300 guests	>800 patients	>800 patients		>500 residents		
Slovenia		>3,600 m <sup>2</sup>	>3,600 m <sup>2</sup>	>10,000 m <sup>2</sup> & <300 MJ/m <sup>2</sup> >5,000 m <sup>2</sup> & <1,000 MJ/m <sup>2</sup> >2,000 m <sup>2</sup> & >1,000 MJ/m <sup>2</sup> >6,000m <sup>2</sup>	>10,000 m <sup>2</sup> & <300 MJ/m <sup>2</sup> >5,000 m <sup>2</sup> & <1,000 MJ/m <sup>2</sup> >2,000 m <sup>2</sup> & >1,000 MJ/m <sup>2</sup>	>22 m	>two storeys or >1,000 m <sup>2</sup>	>two storeys or >1,000 m <sup>2</sup>	>32m	>32 m	>22 m	Automatic & >50 cars
Spain	Yes	Increase travel distance 25%	Compartment >1,500m <sup>2</sup> and fire load >500 MJ/m <sup>2</sup> Compartment >2,500m <sup>2</sup> Increase travel distance 25%	Max. compartment sizes further reduced with higher fire loads or the building adjoins other buildings Double compartments and reduce structural fire resistance	>2,000m <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 Increase travel distance 25%	Required if top floor >28m Increase travel distance 25%	Increase travel distance 25%	Increase travel distance 25%	Top floor >80m	Top floor >80m Increase travel distance 25%	In automatic car parks
Sweden	Yes	Performance-based code	Performance-based code	>5,000m <sup>2</sup>	>2,500m <sup>2</sup> and >800 MJ/m <sup>2</sup> >5,000 m <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		Reduction of 30' in compartment fire resistance	Required in department stores and shopping centres >2,400m <sup>2</sup>	Reduction of 30' in compartment fire resistance for multi-storey buildings	Frequently required if storage is higher than 7.5 m	Reduction of 30' in compartment fire resistance	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>	Underground comp'n't: >4,800m <sup>2</sup> single level >2,400m <sup>2</sup> multi-level Above ground: >4,800m <sup>2</sup> closed >9,600m <sup>2</sup> per level open Automatic car parks with >50 cars
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 higher than 51.50m	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	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	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.	>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.)	If top floor >30m with phased evacuation	Scotland, Wales all care homes England if >1 bed in a room; instead of	England must consider sprinklers	Schools: all of Wales; all of Scotland; very common after risk analysis in	Wales all housing Scotland in buildings above 18m high England in: -buildings above 11m -3 storey house with	If top floor >30m with phased evacuation Reduce structural fire resistance by 30'	

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	or 18m< height <30m. Scotland entertainment compartment >2,000m <sup>2</sup>	or 18m< height <30m. Required in all Scottish shopping centres	Structural fire resistance reduced 30' if height <30m.	30' less structural fire resistance Scotland >14,000 m <sup>2</sup>		door closers.		England	open plan ground floor -four-storey house without 2nd staircase	(5m<height<30m)	

† Turkey has some requirements in existing buildings  
\* Not places of worship, educational establishments, museums