

SprinklerScene

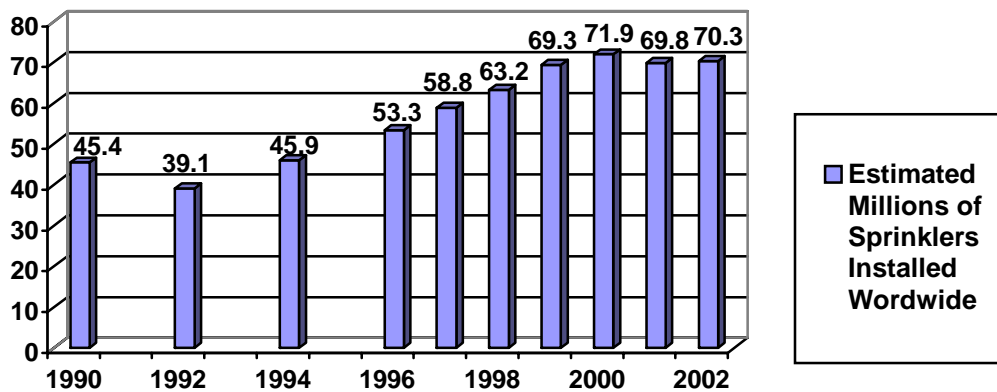
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Europe and Asia Lead World Sprinkler Market Recovery

The IFSA survey for the year 2002 indicates that an increase in the use of fire sprinklers in Europe and Asia more than overcame continued weakness in the western hemisphere, bringing the world market back above 70 million. The total had topped 70 million for the first time in 2000, but the 2001 estimate dropped to 69.8 million due to a weaker global economy. The new growth suggests that the use of fire sprinklers is becoming more common in Europe and Asia, and it takes place at a time when the strongest traditional markets, the United States and Canada, are still suffering from a decline in new construction activity.

The survey was conducted by asking knowledgeable individuals to provide their best estimate of sprinkler usage around the world, weighting the opinions based on the confidence level of the submitter.



The survey results are reported on the following page for 25 geographical areas. The total estimated sprinkler usage by continent is shown below, with the totals compared to the estimates from the two prior years:

	2000 Estimate	2001 Estimate	2002 Estimate
North America	45.2 (63%)	42.8 (61%)	39.7 (57%)
Asia and Pacific	14.9 (21%)	15.5 (22%)	17.2 (24%)
Europe and Mideast	8.4 (12%)	8.5 (12%)	10.7 (15%)
Central and South America	1.6 (2%)	1.2 (2%)	0.8 (1%)
Australia/NZ	1.2 (<2%)	1.3 (2%)	1.4 (2%)
Africa	0.6 (<1%)	0.5 (1%)	0.5 (1%)
	<u>71.9</u>	<u>69.8</u>	<u>70.3</u>



Estimated Number of Sprinklers Installed (millions) - Year 2002

Geographic Area	Number	Change from 2001	Totals
1. Canada	2.7	-0.5	
2. Mexico	0.5	-0.1	
3. United States	36.5	-2.5	
.....			39.7 (-3.1)
4. Central America (inc. Carib.)	0.3	-0.1	
5. South America	0.5	-0.3	
.....			0.8 (-0.4)
6. United Kingdom	1.6	+0.3	
7. Germany	2.2	+0.7	
8. France	1.2	+0.3	
9. Scandinavian Countries (Nor., Swe., Den, and Fin.)	0.9	+0.1	
10. Italy	0.4	-0.1	
11. Low Countries (Belg., Neth., and Lux.)	0.8	+0.3	
12. Austria and Switzerland	0.5		
13. Spain and Portugal	0.8	+0.2	
14. Russia, Belarus & Ukraine	0.7	+0.2	
15. Israel	0.4	-0.1	
16. Other European / Mid-East	1.2	+0.3	
.....			10.7 (+2.2)
17. China (inc. Hong Kong)	10.0	+1.0	
18. Japan	2.2	+0.3	
19. Korea	1.8	+0.1	
20. Singapore and Malaysia	1.0	+0.1	
21. Taiwan	1.0	+0.2	
22. Other Asian and Pacific	1.2		
.....			17.2 (+1.7)
23. Africa (inc. Egypt)	0.5		
.....			0.5
24. Australia	1.2	+0.1	
25. New Zealand	0.2		
.....			1.4 (+0.1)
.....			<hr/>
2002 World Total			70.3 (+0.5)

World Sprinkler News

U.S. Congress Considers Better Tax Treatment for Sprinkler Installation – Legislation has been introduced into both houses of the U.S. Congress (HR 1824 / S 1566) that would reduce the length of time over which fire sprinkler systems could be depreciated for tax purposes. The Internal Revenue Code currently requires that the cost of sprinkler systems be depreciated over the expected life of the building, which is as much as 39 years. The legislation would allow the cost to be expensed over a five-year period, reducing the financial burden for business owners either building a new facility or considering retrofit of existing buildings.

Saudi Arabian Prison Fire Kills 67 – A prison fire in the Saudi capital of Riyadh on 13 September 2003 killed 67 inmates. An additional 20 inmates suffered smoke inhalation and three prison guards were also injured. The cause of the fire was unknown.

Elevated Tanks Proposed for Hong Kong High Rises – In an article in the May 2003 issue of *Fire Prevention – Fire Engineers Journal*, K.P. Cheung of the University of Hong Kong and H.W. Chan of Hinkey Technical Services argue that the effectiveness of the water supply to sprinkler and hydrant (standpipe) systems in high rise buildings can be improved by integrating system design with fire department operations on floors of refuge. This would allow on-site water storage to be reduced to one-sixth of nominal requirements, with the fire department bringing portable equipment and pumps to supplement the supply.

Las Vegas Sprinkler Design Reaches Forward and Back – Fire modeling work was performed by consultant Rolf Jensen Associates in conjunction with the design of the new Desert Passage shopping mall and entertainment complex near Las Vegas, Nevada, USA, which has a gross area of about 55,700 m². With ceiling heights of 22 to 25 m (72 to 82 ft) in the mall entertainment area known as the Lost City, concern over delayed response of sprinklers was addressed by using quick response 57°C (135°F) sprinklers at the ceiling. The concern over potential inadvertent sprinkler operation due to high ceiling temperatures in this desert location was addressed by the provision of dedicated heating/ventilating/air conditioning fans, connected to a emergency power system to ensure that the mall ceiling is maintained at a temperature of not more than 38°C (100°F). The dedicated system shuts down automatically upon receipt of an alarm signal from a beam detector, duct detector or sprinkler in the area. The design area for the sprinkler zones was increased from the normal 140-186 m² (1500-2000 ft²) required by referenced sprinkler installation standard NFPA 13 to 770 m² (8000 ft²) to account for the larger fire that would result from the high ceiling height. According to the fire protection engineering firm, the increase in design area was based on the results of tests conducted at Underwriters Laboratories following the McCormick Place fire in 1967.

British Survey Questions Value of Hose Reels – A survey with participation from more than half of the Chief Fire Officers in the United Kingdom has left some fire equipment manufacturers reeling. Only three of the responding 34 departments stated it was their policy to employ hose reels when fighting fires. The other departments generally indicated a lack of confidence in the operating condition of the hose reels. More than 70 percent agreed the hose reels could be used by trained employees, but few advised broader use by all employees, consistent with the “Get out, Stay out” message for occupant fire safety adopted by the British government.

British Research Establishment Compiling Sprinklered Design Fires – A research program aimed at developing a data base for practicing fire protection engineers is producing comparative heat release curves for typical occupancies with and without sprinkler protection. Funded by the former Department of Transport, Local Government and the Regions, the work is based on testing conducted by Fire and Risk Sciences (FRS) at the Building Research Establishment (BRE). As an example, sprinklers in a carpet store controlled the fire such that the fire reached a peak heat release rate of 700 kW as compared to 2.3 MW over 20 minutes without sprinklers. In a retail sports clothing test, the fire was stopped when sprinklers activated at a heat release of 860 kW. Without sprinklers, the fire grew rapidly to a peak of about 6.8 MW, at which time it had to be extinguished to prevent damage to the test facility. The program included ten other scenarios: stacked wooden pallets, idle cardboard boxes, retail soft toy mountain, open plan office, office reception area, retail handcart, soft play area, retail luggage displays (2), and nightclub/theme bar. An order form to purchase the CD Rom containing the data for all tests is available at www.projects.bre.co.uk/frsdiv.

Swedish Testing of Deluge Systems Uses Drop-Off Hoses – The Staoil Company has developed a method for testing the deluge sprinkler systems used on its oil platforms. The systems rely upon the sea for a water supply, and it is important that testing be done without damaging equipment. Using a method tested by the Swedish National Testing and Research Institute (SP), a thin plastic hose is secured around the piping above each sprinkler nozzle using a steel wire. A knot is tied at the base of each hose. Should a fire take place during the day or two that the system is being prepared for testing, the plastic hoses would fill with water, pulling them away from the sprinklers. The knots are untied at the time of the test, and the flow and pressure evaluated, following which time the plastic hoses can be pulled down from floor level. The SP tests showed that plastic pipe with a wall thickness of 110 µm worked better than that of 30 µm or 200 µm, and that a placement of nozzles 0.25 m below the ceiling was better than 1 m below the ceiling, since the heating of the steel wire from fire gases at the higher elevation led to dropping of the plastic pipe within 15 to 30 seconds, even if water had not yet discharged from the system.

Upcoming Meetings, Seminars, and Exhibitions of Interest

20-21 November 2003 – “International Conference on Building Fire Safety”, Queensland, Australia, Queensland University of Technology, k2.williams@qut.edu.au

27 November 2003 – “Fire Protection Systems”, Prague, Czech Republic, VdS Schadenverhütung, (fachtagung@vds.de)

2-3 December 2003 – “Sprinkler new environment in Europe”, Brussels, Belgium, ANPI, events@anpi.be

2-7 May 2004 – “Building for the Future”, CIB World Building Congress, Toronto, Canada, International Council for Research and Innovation in Building and Construction, www.cib2004.ca

8-9 July 2004 – 5th International Fire Sprinkler Conference, Berlin, Germany, IFSA (www.sprinklerworld.org)