



RESEARCH



Warehouse Structure Fires

Supporting Tables

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Warehouse Structure Fires: Supporting Tables

The tables in this document are a companion to [the report](#) of the same name. The table topics are listed below.

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The national estimates of fires and losses in this analysis are presented as 2016–2020 annual averages. Estimates were derived from the US Fire Administration’s National Fire Incident Reporting System (NFIRS) and NFPA’s annual fire department experience survey and include proportional shares of unknown or missing data. Fires are rounded to the nearest 100, injuries are rounded to the nearest one, and property loss is rounded to the nearest million dollars. Except for Table 1, property loss was not adjusted for inflation. Percentages were calculated on unrounded estimates. Sums might not equal totals due to rounding errors. Estimates for Tables 6–11 include proportional shares of fires and losses in which data for the other variables was unknown. For more information on how these estimates were calculated, please see [How NFPA’s National Estimates Are Calculated for Fires](#).

Table 1. Structure Fires in Warehouse Properties by Year: 1980–2020

Year	Fires	Direct Property Damage in Millions (as Reported)	Direct Property Damage in Millions (in 2020 Dollars)
1980	4,700	\$60	\$189
1981	3,800	\$84	\$239
1982	3,500	\$58	\$156
1983	2,800	\$100	\$260
1984	2,900	\$52	\$129
1985	3,100	\$148	\$356
1986	2,600	\$48	\$114
1987	2,500	\$68	\$155
1988	2,300	\$213	\$467
1989	1,900	\$51	\$107
1990	1,900	\$95	\$189
1991	1,800	\$46	\$87
1992	1,500	\$36	\$66
1993	1,400	\$87	\$156
1994	1,500	\$62	\$108
1995	1,300	\$81	\$138
1996	1,400	\$155	\$256
1997	1,300	\$49	\$79
1998	1,200	\$40	\$64
1999	1,400	\$433	\$673
2000	1,500	\$165	\$248
2001	1,500	\$140	\$205
2002	1,400	\$135	\$194
2003	1,400	\$157	\$221
2004	1,400	\$138	\$189
2005	1,300	\$128	\$170
2006	1,400	\$76	\$98
2007	1,400	\$142	\$177
2008	1,400	\$311	\$375
2009	1,100	\$152	\$184
2010	1,200	\$123	\$146
2011	1,200	\$212	\$244
2012	1,300	\$162	\$183
2013	1,200	\$126	\$140
2014	1,300	\$112	\$123
2015	1,500	\$162	\$177

Table 1. Structure Fires in Warehouse Properties by Year: 1980–2020 (Continued)

Year	Fires	Direct Property Damage in Millions (as Reported)	Direct Property Damage in Millions (in 2020 Dollars)
2016	1,300	\$271	\$292
2017	1,600	\$84	\$89
2018	1,400	\$168	\$174
2019	1,600	\$219	\$221
2020	1,400	\$671	\$671

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 2. Structure Fires in Warehouse Properties by Structure Status: 2016–2020

Structure Status	Fires		Civilian Injuries		Direct Property Damage in Millions	
Occupied and operating	1,010	(70%)	12	(76%)	\$259	(92%)
Vacant and unsecured	200	(14%)	1	(7%)	\$8	(3%)
Vacant and secured	110	(7%)	1	(6%)	\$9	(3%)
Idle, not routinely used	50	(4%)	0	(0%)	\$4	(1%)
Under construction	30	(2%)	0	(0%)	\$1	(0%)
Being demolished	20	(1%)	0	(2%)	\$0	(0%)
Under major renovation	10	(1%)	0	(0%)	\$0	(0%)
Other	20	(2%)	0	(0%)	\$1	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 3. Structure Fires in Warehouse Properties by Day of the Week: 2016–2020

Day of Week	Fires		Civilian Injuries		Direct Property Damage in Millions	
Sunday	170	(11%)	1	(7%)	\$18	(7%)
Monday	210	(15%)	2	(12%)	\$27	(10%)
Tuesday	230	(16%)	4	(27%)	\$26	(9%)
Wednesday	220	(15%)	3	(16%)	\$18	(6%)
Thursday	220	(15%)	2	(13%)	\$45	(16%)
Friday	220	(15%)	0	(2%)	\$121	(43%)
Saturday	190	(13%)	4	(22%)	\$27	(10%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 4. Structure Fires in Warehouse Properties by Month: 2016–2020

Month	Fires		Civilian Injuries		Direct Property Damage in Millions	
January	140	(10%)	2	(14%)	\$14	(5%)
February	130	(9%)	1	(5%)	\$20	(7%)
March	130	(9%)	2	(12%)	\$10	(3%)
April	120	(8%)	0	(2%)	\$24	(8%)
May	120	(8%)	1	(4%)	\$23	(8%)
June	120	(8%)	1	(8%)	\$104	(37%)
July	130	(9%)	0	(2%)	\$16	(6%)
August	120	(8%)	2	(14%)	\$11	(4%)
September	110	(7%)	3	(17%)	\$18	(6%)
October	110	(7%)	0	(2%)	\$10	(3%)
November	120	(8%)	2	(12%)	\$15	(5%)
December	120	(8%)	1	(8%)	\$19	(7%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 5. Structure Fires in Warehouse Properties by Time of Day: 2016–2020

Time of Day	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Midnight–12:59 a.m.	50	(3%)	0	(0%)	\$10	(3%)
1:00 a.m.–1:59 a.m.	40	(3%)	0	(0%)	\$4	(1%)
2:00 a.m.–2:59 a.m.	40	(3%)	0	(2%)	\$4	(2%)
3:00 a.m.–3:59 a.m.	40	(3%)	0	(0%)	\$6	(2%)
4:00 a.m.–4:59 a.m.	50	(3%)	0	(2%)	\$7	(2%)
5:00a.m.–5:59 a.m.	50	(3%)	0	(0%)	\$97	(34%)
6:00 a.m.–6:59 a.m.	60	(4%)	1	(8%)	\$16	(6%)
7:00 a.m.–7:59 a.m.	60	(4%)	0	(2%)	\$5	(2%)
8:00 a.m.–8:59 a.m.	60	(4%)	1	(9%)	\$9	(3%)
9:00 a.m.–9:59 a.m.	70	(5%)	1	(9%)	\$2	(1%)
10:00 a.m.–10:59 a.m.	70	(5%)	1	(8%)	\$8	(3%)
11:00 a.m.–11:59 a.m.	60	(4%)	2	(10%)	\$3	(1%)
12:00 p.m.–12:59 p.m.	70	(5%)	1	(9%)	\$4	(1%)
1:00 p.m.–1:59 p.m.	70	(5%)	1	(4%)	\$12	(4%)
2:00 p.m.–2:59 p.m.	80	(5%)	0	(2%)	\$5	(2%)
3:00 p.m.–3:59 p.m.	80	(5%)	1	(5%)	\$4	(1%)
4:00 p.m.–4:59 p.m.	80	(6%)	0	(2%)	\$19	(7%)
5:00 p.m.–5:59 p.m.	80	(5%)	1	(3%)	\$14	(5%)
6:00 p.m.–6:59 p.m.	80	(5%)	1	(5%)	\$9	(3%)
7:00 p.m.–7:59 p.m.	70	(5%)	1	(7%)	\$10	(3%)
8:00 p.m.–8:59 p.m.	70	(4%)	1	(5%)	\$9	(3%)
9:00 p.m.–9:59 p.m.	60	(4%)	0	(0%)	\$10	(3%)
10:00 p.m.–10:59 p.m.	50	(3%)	1	(5%)	\$7	(3%)
11:00 p.m.– 1:59 p.m.	40	(3%)	0	(2%)	\$10	(4%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 6. Structure Fires in Warehouse Properties by Equipment Involved in Ignition: 2016–2020

Equipment Involved	Fires		Civilian Injuries		Direct Property Damage in Millions	
Electrical distribution and lighting equipment	260	(18%)	0	(0%)	\$86	(31%)
Wiring and related equipment	120	(8%)	0	(0%)	\$50	(18%)
Lamp, bulb, or lighting	60	(4%)	0	(0%)	\$17	(6%)
Transformers and power supplies	60	(4%)	0	(0%)	\$17	(6%)
Cord or plug	20	(1%)	0	(0%)	\$2	(1%)
Heating equipment	140	(9%)	0	(2%)	\$14	(5%)
Fixed or portable space heater	70	(5%)	0	(0%)	\$12	(4%)
Confined fuel burner or boiler fire	20	(2%)	0	(2%)	\$0	(0%)
Central heat	10	(1%)	0	(0%)	\$0	(0%)
Confined chimney or flue fire	10	(1%)	0	(0%)	\$0	(0%)
Water heater	10	(1%)	0	(0%)	\$1	(0%)
Heat lamp	10	(1%)	0	(0%)	\$0	(0%)
Other known heating equipment	0	(0%)	0	(0%)	\$1	(0%)
Cooking equipment	80	(5%)	0	(0%)	\$7	(2%)
Confined cooking fire	50	(3%)	0	(0%)	\$0	(0%)
Range with or without oven, cooking surface	10	(1%)	0	(0%)	\$0	(0%)
Other known cooking equipment	20	(1%)	0	(0%)	\$6	(2%)
Torches, burners, or soldering irons	70	(5%)	0	(0%)	\$4	(1%)
Confined commercial compactor fire	60	(4%)	1	(5%)	\$0	(0%)
Fan	40	(3%)	3	(18%)	\$0	(0%)
Unclassified equipment involved in ignition	30	(2%)	3	(18%)	\$17	(6%)
Power cutting tool	20	(1%)	0	(0%)	\$1	(0%)
Power sander, grinder, buffer, or polisher	20	(1%)	0	(0%)	\$2	(1%)
Clothes dryer	20	(1%)	0	(0%)	\$1	(0%)
Air conditioner	20	(1%)	0	(0%)	\$0	(0%)
Heat treating equipment	10	(1%)	0	(0%)	\$4	(1%)
Conveyor	10	(1%)	3	(18%)	\$1	(1%)
Confined incinerator overload or malfunction fire	10	(1%)	0	(0%)	\$0	(0%)
Refrigerator or refrigerator/freezer	10	(1%)	0	(0%)	\$0	(0%)
Air compressor	10	(1%)	0	(0%)	\$0	(0%)
Computer	10	(1%)	0	(0%)	\$1	(0%)
Hoist or lift	10	(1%)	0	(0%)	\$0	(0%)
Industrial furnace or kiln	10	(1%)	0	(0%)	\$1	(0%)

**Table 6. Structure Fires in Warehouse Properties by Equipment Involved in Ignition: 2016–2020
(Continued)**

Equipment Involved	Fires		Civilian Injuries		Direct Property Damage in Millions	
Other known equipment involved in ignition	120	(8%)	0	(0%)	\$59	(21%)
No equipment involved in ignition	280	(20%)	6	(35%)	\$82	(29%)
Contained trash or rubbish fire	220	(15%)	0	(2%)	\$0	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 7. Structure Fires in Warehouse Properties by Cause of Ignition: 2016–2020

Cause of Ignition	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Unintentional	870	(60%)	11	(66%)	\$150	(53%)
Non-confined	640	(44%)	10	(61%)	\$149	(53%)
Confined	240	(16%)	1	(4%)	\$0	(0%)
Failure of equipment or heat source	270	(19%)	2	(11%)	\$43	(15%)
Non-confined	220	(15%)	2	(11%)	\$42	(15%)
Confined	50	(4%)	0	(0%)	\$0	(0%)
Intentional	210	(15%)	4	(23%)	\$42	(15%)
Non-confined	130	(9%)	3	(18%)	\$42	(15%)
Confined	80	(5%)	1	(5%)	\$0	(0%)
Unclassified cause	70	(5%)	0	(0%)	\$25	(9%)
Non-confined	70	(5%)	0	(0%)	\$25	(9%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Act of nature	30	(2%)	0	(0%)	\$22	(8%)
Non-confined	20	(2%)	0	(0%)	\$22	(8%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)
Non-confined	1,080	(74%)	14	(91%)	\$282	(100%)
Confined	370	(26%)	1	(9%)	\$0	(0%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 8. Structure Fires in Warehouse Properties by Factor Contributing to Ignition: 2016–2020

Factor Contributing to Ignition	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Electrical failure or malfunction	300	(21%)	4	(24%)	\$64	(23%)
Non-confined	290	(20%)	4	(24%)	\$64	(23%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Abandoned or discarded material or product	170	(12%)	2	(10%)	\$33	(12%)
Non-confined	80	(6%)	2	(10%)	\$33	(12%)
Confined	90	(6%)	0	(0%)	\$0	(0%)
Mechanical failure or malfunction	160	(11%)	0	(0%)	\$17	(6%)
Non-confined	100	(7%)	0	(0%)	\$16	(6%)
Confined	60	(4%)	0	(0%)	\$0	(0%)
Heat source too close to combustibles	140	(10%)	0	(0%)	\$20	(7%)
Non-confined	110	(8%)	0	(0%)	\$20	(7%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Unclassified factor contributed to ignition	120	(8%)	4	(26%)	\$38	(14%)
Non-confined	90	(6%)	3	(16%)	\$38	(14%)
Confined	30	(2%)	1	(9%)	\$0	(0%)
Cutting or welding too close to combustibles	80	(6%)	1	(6%)	\$4	(1%)
Non-confined	70	(5%)	1	(6%)	\$4	(1%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Exposure fire	80	(6%)	0	(0%)	\$25	(9%)
Non-confined	80	(6%)	0	(0%)	\$25	(9%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Rekindle	70	(5%)	0	(0%)	\$14	(5%)
Non-confined	50	(3%)	0	(0%)	\$14	(5%)
Confined	20	(1%)	0	(0%)	\$0	(0%)
Unclassified misuse of material or product	60	(4%)	0	(0%)	\$1	(0%)
Non-confined	40	(3%)	0	(0%)	\$1	(0%)
Confined	20	(1%)	0	(0%)	\$0	(0%)
Failure to clean	40	(3%)	1	(4%)	\$4	(1%)
Non-confined	10	(1%)	1	(4%)	\$4	(1%)
Confined	20	(2%)	0	(0%)	\$0	(0%)
Outside/open fire for debris or waste disposal	40	(2%)	0	(0%)	\$1	(0%)
Non-confined	10	(1%)	0	(0%)	\$1	(0%)
Confined	20	(2%)	0	(0%)	\$0	(0%)
Improper container or storage	30	(2%)	1	(4%)	\$2	(1%)
Non-confined	30	(2%)	1	(4%)	\$2	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)

**Table 8. Structure Fires in Warehouse Properties by Factor Contributing to Ignition: 2016–2020
(Continued)**

Factor Contributing to Ignition	Fires		Civilian Injuries		Direct Property Damage in Millions	
Fire spread or control, other	30	(2%)	0	(0%)	\$22	(8%)
Non-confined	20	(1%)	0	(0%)	\$22	(8%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Equipment unattended	20	(2%)	0	(0%)	\$6	(2%)
Non-confined	20	(1%)	0	(0%)	\$6	(2%)
Confined	10	(0%)	0	(0%)	\$0	(0%)
Other known factor contributing to ignition	190	(13%)	0	(26%)	\$57	(20%)
Non-confined	130	(9%)	0	(26%)	\$57	(20%)
Confined	60	(4%)	0	(0%)	\$0	(0%)
Total Fires	1,450	(100%)	16	(100%)	\$283	(100%)
Non-confined	1,080	(74%)	14	(91%)	\$282	(100%)
Confined	370	(26%)	1	(9%)	\$0	(0%)
Total Factors	1,530	(105%)	16	(100%)	\$306	(108%)
Non-confined	1,130	(78%)	14	(91%)	\$306	(108%)
Confined	390	(27%)	1	(9%)	\$0	(0%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 9. Structure Fires in Warehouse Properties by Heat Source: 2016–2020

Heat Source	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Arcing	200	(14%)	3	(21%)	\$40	(14%)
Non-confined	190	(13%)	3	(21%)	\$40	(14%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Unclassified heat from powered equipment	200	(14%)	0	(0%)	\$16	(6%)
Non-confined	140	(10%)	0	(0%)	\$16	(6%)
Confined	60	(4%)	0	(0%)	\$0	(0%)
Radiated or conducted heat from operating equipment	130	(9%)	1	(4%)	\$10	(4%)
Non-confined	90	(6%)	1	(4%)	\$10	(4%)
Confined	40	(3%)	0	(0%)	\$0	(0%)
Spark, ember, or flame from operating equipment	130	(9%)	1	(8%)	\$27	(9%)
Non-confined	100	(7%)	1	(8%)	\$27	(9%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Unclassified hot or smoldering object	110	(7%)	1	(8%)	\$31	(11%)
Non-confined	70	(5%)	1	(8%)	\$31	(11%)
Confined	40	(3%)	0	(0%)	\$0	(0%)
Unclassified heat source	100	(7%)	3	(17%)	\$17	(6%)
Non-confined	70	(5%)	2	(13%)	\$17	(6%)
Confined	30	(2%)	1	(4%)	\$0	(0%)
Hot ember or ash	90	(6%)	0	(0%)	\$2	(1%)
Non-confined	60	(4%)	0	(0%)	\$2	(1%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Spontaneous combustion or chemical reaction	70	(5%)	2	(15%)	\$15	(5%)
Non-confined	50	(3%)	2	(15%)	\$15	(5%)
Confined	20	(1%)	0	(0%)	\$0	(0%)
Smoking materials	70	(5%)	0	(0%)	\$9	(3%)
Non-confined	40	(3%)	0	(0%)	\$9	(3%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Lighter	50	(3%)	3	(19%)	\$3	(1%)
Non-confined	30	(2%)	2	(14%)	\$3	(1%)
Confined	20	(1%)	1	(5%)	\$0	(0%)
Match	40	(3%)	0	(0%)	\$7	(3%)
Non-confined	20	(1%)	0	(0%)	\$7	(3%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Heat from direct flame or convection currents	40	(3%)	0	(0%)	\$9	(3%)
Non-confined	40	(3%)	0	(0%)	\$9	(3%)
Confined	0	(0%)	0	(0%)	\$0	(0%)

Table 9. Structure Fires in Warehouse Properties by Heat Source: 2016–2020 (Continued)

Heat Source	Fires		Civilian Injuries		Direct Property Damage in Millions	
Heat or spark from friction	40	(3%)	0	(0%)	\$3	(1%)
Non-confined	30	(2%)	0	(0%)	\$3	(1%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Molten or hot material	30	(2%)	0	(0%)	\$4	(1%)
Non-confined	20	(2%)	0	(0%)	\$4	(1%)
Confined	10	(0%)	0	(0%)	\$0	(0%)
Flame or torch used for lighting	30	(2%)	1	(8%)	\$5	(2%)
Non-confined	20	(1%)	1	(8%)	\$5	(2%)
Confined	10	(0%)	0	(0%)	\$0	(0%)
Other known heat source	130	(9%)	0	(0%)	\$85	(30%)
Non-confined	120	(8%)	0	(0%)	\$85	(30%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)
Non-confined	1,080	(74%)	14	(91%)	\$282	(100%)
Confined	370	(26%)	1	(9%)	\$0	(0%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 10. Structure Fires in Warehouse Properties by Area of Origin: 2016–2020

Area of Origin	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Unclassified storage area	170	(12%)	1	(4%)	\$147	(52%)
Non-confined	140	(10%)	1	(4%)	\$147	(52%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Shipping receiving or loading area	120	(8%)	1	(5%)	\$16	(6%)
Non-confined	90	(6%)	0	(2%)	\$16	(6%)
Confined	30	(2%)	0	(3%)	\$0	(0%)
Storage room, area, tank, or bin	90	(6%)	2	(11%)	\$11	(4%)
Non-confined	80	(6%)	2	(11%)	\$11	(4%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Trash or rubbish chute, area. Or container	80	(6%)	0	(2%)	\$1	(0%)
Non-confined	10	(1%)	0	(2%)	\$1	(0%)
Confined	70	(5%)	0	(0%)	\$0	(0%)
Processing or manufacturing area, or workroom	60	(4%)	2	(13%)	\$18	(6%)
Non-confined	50	(3%)	2	(13%)	\$18	(6%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Unclassified outside area	60	(4%)	0	(0%)	\$1	(0%)
Non-confined	30	(2%)	0	(0%)	\$1	(0%)
Confined	40	(3%)	0	(0%)	\$0	(0%)
Exterior roof surface	60	(4%)	0	(3%)	\$2	(1%)
Non-confined	60	(4%)	0	(3%)	\$2	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Storage of supplies or tools or dead storage	60	(4%)	0	(3%)	\$9	(3%)
Non-confined	60	(4%)	0	(3%)	\$9	(3%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Vacant structural area	60	(4%)	0	(2%)	\$2	(1%)
Non-confined	30	(2%)	0	(2%)	\$2	(1%)
Confined	20	(1%)	0	(0%)	\$0	(0%)
Unclassified equipment or service area	50	(3%)	2	(10%)	\$4	(1%)
Non-confined	30	(2%)	1	(6%)	\$4	(1%)
Confined	20	(1%)	1	(4%)	\$0	(0%)
Office	40	(3%)	1	(7%)	\$3	(1%)
Non-confined	40	(3%)	1	(7%)	\$3	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Unclassified area of origin	40	(3%)	0	(0%)	\$2	(1%)
Non-confined	20	(1%)	0	(0%)	\$2	(1%)
Confined	20	(1%)	0	(0%)	\$0	(0%)

Table 10. Structure Fires in Warehouse Properties by Area of Origin: 2016–2020, Continued

Area of Origin	Fires		Civilian Injuries		Direct Property Damage in Millions	
Garage or vehicle storage area	40	(3%)	1	(8%)	\$4	(2%)
Non-confined	30	(2%)	1	(8%)	\$4	(2%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Exterior wall surface	40	(3%)	0	(2%)	\$14	(5%)
Non-confined	40	(3%)	0	(2%)	\$14	(5%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Maintenance or paint shop area	40	(3%)	0	(2%)	\$5	(2%)
Non-confined	30	(2%)	0	(2%)	\$5	(2%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Machinery room or area or elevator machinery room	30	(2%)	0	(0%)	\$12	(4%)
Non-confined	20	(1%)	0	(0%)	\$12	(4%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Kitchen or cooking area	30	(2%)	0	(0%)	\$1	(0%)
Non-confined	10	(1%)	0	(0%)	\$1	(0%)
Confined	20	(1%)	0	(0%)	\$0	(0%)
Lavatory, bathroom, locker room, or check room	30	(2%)	1	(5%)	\$0	(0%)
Non-confined	20	(1%)	0	(2%)	\$0	(0%)
Confined	10	(1%)	0	(3%)	\$0	(0%)
Wall assembly or concealed space	30	(2%)	0	(3%)	\$1	(0%)
Non-confined	30	(2%)	0	(3%)	\$1	(0%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Other known area of origin	330	(23%)	3	(20%)	\$29	(10%)
Non-confined	260	(18%)	3	(20%)	\$29	(10%)
Confined	60	(4%)	0	(0%)	\$0	(0%)
Confined chimney or flue fire	10	(1%)	0	(0%)	\$0	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)
Non-confined	1,080	(74%)	14	(91%)	\$282	(100%)
Confined	370	(26%)	1	(9%)	\$0	(0%)

Source: NFIRS 5.0 and NFPA fire experience survey.

Table 11. Structure Fires in Warehouse Properties by Item First Ignited: 2016–2020

Item First Ignited	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Rubbish, trash, or waste	200	(14%)	0	(3%)	\$1	(1%)
Non-confined	70	(5%)	0	(3%)	\$1	(0%)
Confined	130	(9%)	0	(0%)	\$0	(0%)
Electrical wire or cable insulation	150	(10%)	2	(11%)	\$15	(5%)
Non-confined	130	(9%)	2	(11%)	\$15	(5%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Flammable or combustible liquids or gases, piping, or filter	90	(6%)	5	(34%)	\$9	(3%)
Non-confined	80	(5%)	5	(32%)	\$9	(3%)
Confined	20	(1%)	0	(3%)	\$0	(0%)
Multiple items first ignited	80	(5%)	1	(7%)	\$45	(16%)
Non-confined	60	(4%)	1	(7%)	\$45	(16%)
Confined	20	(2%)	0	(0%)	\$0	(0%)
Unclassified item first ignited	80	(5%)	1	(9%)	\$13	(4%)
Non-confined	70	(5%)	1	(9%)	\$13	(4%)
Confined	10	(1%)	0	(0%)	\$0	(0%)
Box, carton, bag, basket, or barrel	70	(5%)	1	(4%)	\$17	(6%)
Non-confined	50	(3%)	1	(4%)	\$16	(6%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Structural member or framing	60	(4%)	0	(0%)	\$38	(14%)
Non-confined	60	(4%)	0	(0%)	\$38	(14%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Magazine, newspaper, or writing paper	50	(4%)	0	(0%)	\$1	(0%)
Non-confined	20	(1%)	0	(0%)	\$1	(0%)
Confined	40	(2%)	0	(0%)	\$0	(0%)
Exterior roof covering or finish	50	(4%)	0	(0%)	\$2	(1%)
Non-confined	50	(4%)	0	(0%)	\$2	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Exterior wall covering or finish	50	(3%)	0	(0%)	\$5	(2%)
Non-confined	50	(3%)	0	(0%)	\$5	(2%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Dust, fiber, lint, including sawdust or excelsior	40	(2%)	0	(0%)	\$4	(2%)
Non-confined	20	(2%)	0	(0%)	\$4	(2%)
Confined	10	(1%)	0	(0%)	\$0	(0%)

Table 11. Structure Fires in Warehouse Properties by Item First Ignited: 2016–2020 (Continued)

Item First Ignited	Fires		Civilian Injuries		Direct Property Damage in Millions	
	Count	(%)	Count	(%)	Count	(%)
Cooking materials, including food	30	(2%)	0	(0%)	\$0	(0%)
Non-confined	10	(0%)	0	(0%)	\$0	(0%)
Confined	30	(2%)	0	(0%)	\$0	(0%)
Baled goods or materials	30	(2%)	1	(6%)	\$5	(2%)
Non-confined	20	(1%)	0	(3%)	\$5	(2%)
Confined	10	(1%)	1	(4%)	\$0	(0%)
Unclassified structural component or finish	30	(2%)	1	(6%)	\$2	(1%)
Non-confined	30	(2%)	1	(6%)	\$2	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Palletized material, material stored on pallets	30	(2%)	0	(0%)	\$20	(7%)
Non-confined	30	(2%)	0	(0%)	\$20	(7%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Insulation within structural area	30	(2%)	0	(0%)	\$0	(0%)
Non-confined	30	(2%)	0	(0%)	\$0	(0%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Exterior trim, including doors	20	(2%)	0	(3%)	\$2	(1%)
Non-confined	20	(2%)	0	(3%)	\$2	(1%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Bulk storage	20	(2%)	0	(2%)	\$31	(11%)
Non-confined	20	(1%)	0	(2%)	\$31	(11%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Agricultural crop, including fruits and vegetables	20	(2%)	0	(0%)	\$16	(6%)
Non-confined	20	(1%)	0	(0%)	\$16	(6%)
Confined	0	(0%)	0	(0%)	\$0	(0%)
Other known item first ignited	330	(22%)	3	(16%)	\$56	(20%)
Non-confined	270	(18%)	2	(13%)	\$56	(20%)
Confined	60	(4%)	0	(3%)	\$0	(0%)
Total	1,450	(100%)	16	(100%)	\$283	(100%)
Non-confined	1,080	(74%)	14	(91%)	\$282	(100%)
Confined	370	(26%)	1	(9%)	\$0	(0%)

Source: NFIRS 5.0 and NFPA fire experience survey.

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