



Fire-Rated Cabinets: The Right Choice

BY PAT JAUGSTETTER,

President of the Fire Equipment Manufacturers Association (FEMA)

Fire-rated cabinets, now manufactured by the three major leaders of extinguisher cabinets, have been met with enthusiastic acceptance throughout the architectural and construction community. One such viewpoint expressed by Nicholas Sperides, A.I.A., of Welman Sperides Architects, noted that fire-rated cabinets "...[provide] architects with an alternative design solution when a standard cabinet does not meet all of our needs. It's one of those products that provide our clients with 'high value'... it does a lot more than hold a fire extinguisher."

Fire-rated cabinets, developed and introduced to the marketplace in 1991, were created in response to the concerns expressed by fire marshals, code officials and architects. These industry professionals were interested in a product that they could inspect after installation in order to determine that the fire-resistive requirements of the wall had been maintained. Fire-rated extinguisher cabinets were designed to maintain the integrity of fire-related walls while using recessed, or partially recessed, cabinets, as required by building codes.

Before fire-rated cabinets were created, architects would typically specify that where fire-rated walls are penetrated, the opening around the cabinet must be framed, lined on all five sides with a fire-rated gypsum board (type "X") membrane, taped, and finally sealed with joint compound in order to uphold the wall's fire-resistive qualities.

This "lining the opening" was often a procedure that lacked precision and consistency, as compared to using a standardized product, which is listed and fabricated to specific tolerances and subject to third-party quality inspection at



the manufacturing plant.

With the breakthrough introduction of fire-rated cabinets, the fire official and inspector no longer have to wonder if "lining the opening" has compromised the integrity of the fire-resistive membrane behind the cabinet. It also eliminates the need to inspect the lined opening before installation of the extinguisher cabinet. Instead, the use of a listed and labeled fire-rated cabinet provides assurance that the fire barrier, as required by code, has not been compromised.

In addition to the benefits to the fire official and inspector, a fire-rated cabinet benefits the building owner as it saves labor cost and materials. A standard cabinet wall opening that is framed, lined with gypsum board, taped and finished with joint compound can take approximately one hour per installation, plus materials. The cost for a fire-rated cabinet averages from \$60-\$80 to the contractor, depending on the size of the cabinet. The additional cost for the fire-rated cabinet is more than offset by the labor savings for the typical installation crew.

One such major, high-visibility project that utilized fire-rated cabinets is the

Mall of America in Bloomington, Minnesota. In 1992, fire-rated cabinets were used extensively in that project as soon as the contractor realized the cost savings compared to using the originally specified non-rated cabinets with the "lining the opening" installation method. (see attached photo)

Fire-rated cabinets are certified and listed by Intertek Testing Services or Underwriters Laboratories to conform to one-hour combustible and two-hour non-combustible fire-barrier wall system building codes. These cabinets are fabricated in accordance with UBC 7-5 (ASTM E814) and UBC 7-1 (ASTM E119) under positive pressure to measure fire resistive performance.

Currently, fire-rated cabinet sales make up approximately 25% of overall cabinet sales. This statistic is a healthy percentage of overall cabinets, considering that fire-rated cabinets are also placed in many non-fire-rated wall applications, including surface mount applications where the wall is not penetrated at all. Fire-rated cabinets have been an important, cost-effective part of numerous construction projects. A few examples are listed and shown below:

- Amherst College
Amherst, MA
- Atlantic City Convention Center
Atlantic City, NJ
- Caesar's Palace Forum Shops
Las Vegas, NV
- Capital Club
Sacramento, CA
- First of America Corporation
Kalamazoo, MI
- Golden Moon Casino
Philadelphia, MS
- Hard Rock Hotel

Biloxi, MS
 Honolulu Medical Group
 Honolulu, HI
 Indigo Condos
 Pensacola, FL
 Kaiser Panorama City Hospital
 Panorama City, CA
 Mall of America
 Bloomington, MN
 Metropolitan Council
 Minneapolis, MN
 National Institute of Health
 Bethesda, MD
 Old Center
 Jacksonville, FL
 Permian Tower
 Houston, TX
 Pontiac Motors
 Pontiac, MI
 Rising Dove Senior Housing
 Patterson, NH
 South Strand High School
 Murrells Inlet, SC
 Southwest Florida International
 Airport
 Fort Myers, FL
 The Registry Resort
 Naples, FL
 The Sanctuary At Kiawah Hotel
 Kiawah Island, SC
 Treasure Island Hotel
 Las Vegas, NV
 UC Merced Science &
 Engineering Bldg
 Merced, CA
 United States Embassy
 Cameroon, Africa
 University of Central Florida
 Uptown
 Orlando, FL
 Walter Sillers Building
 Jackson, MS

In summary, the growing use of fire-rated barriers in commercial construction calls for a steadily increasing need for all fire-rated accessory items, including cabinets, in order to maintain the integrity of the fire barrier. This industry shift is indicated, in part, by the growing prevalence of fire-rated type "X" gypsum wallboard usage. (Studies

show the ratio of type "X" used to all wallboard growing from 24.9% in 1992 to 29.7% in 2003, with projections of 33.3% in 2007 and 36.1% in 2012.)

Looking ahead, it is known that building safety performance demands will continue to increase; and, as a part of this, fire barriers for structural integrity and life safety will continue to become more widespread. Therefore, it can be expected and predicted that fire-rated cabinets will play an even more significant role in future projects.

To inquire about additional educational materials pertaining to fire-rated cabinets or balanced fire protection, visit FEMA's website at www.femalifesafety.org. ▽

Founded in 1930, FEMA is an international, non-profit trade association representing the world's leading fire equipment manufacturers. Its member companies aim to provide and manufacture top-quality, fire protection products ranging from portable fire extinguishers and fire hose systems to fire suppression systems, interior equipment, and others – all necessary components of a complete and balanced fire protection plan.

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1109 West Cedar Street
 Standish, Michigan 48658
 Telephone: 989-846-9591
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