UL 72 class 350 1 hour Fire and Impact Testing

The rated labeling of an insulated safe or file cabinet indicates the degree of protection the safe or file cabinet will provide its contents if exposed to a fire. The degree of protection will affect the selling price of the cabinet or safe.

The most widely accepted label is issued by Underwriters Laboratories. Underwriters Laboratories was founded in 1894 and is chartered as a not-for-profit independent testing organisation. Its sole purpose and function is to test for public safety. At UL, a whole array of products, systems, devices and materials are stringently examined and tested to insure they pose no risk to life or health, or are not susceptible to fire or other hazards. Crime prevention is also a major UL concern. And, of course, those products designed to protect are put to trial to make sure they DO protect.

UL Testing

If a manufacturer wants an Underwriters Laboratories (UL) label on their insulated records protection equipment, the product must meet or exceed the UL 72 testing standards.

Products may undergo four different fire resistance tests: 1) fire endurance test, 2) fire and impact test, 3) explosion hazard test, 4) combined explosion and impact test. The product is then rated for each of the tests it has passed, e.g. impact rated.

UL Test Descriptions

Fire Endurance Test:

Contents, which may consist of paper, computer media, or both, are distributed loosely throughout the fire resistant product to be tested. This conditioning insure that the temperature of the interior at the start of the test will be between 65° and 75° and the relative humidity will be below 65%. This is considered to be equivalent to the normal room conditions where the documents will be stored. Depending upon the classification time being tested, the furnace heat rises at a carefully monitored rate until the specified temperature is reached. Great care is taken to make sure the furnace heat is distributed evenly over the exposed surfaces of the products.

After the temperature and time is reached, for example on hour - 1700°F, the furnace is turned off. The test product must then cool in the unopened furnace until a significant decrease in the internal temperature is noted. This cooling process can take as long as 68 hours. During this cooling period, the tested product continues to absorb the heat in the furnace and the interior temperature of the product can continue to rise rapidly. It is during this critical point of the test that many manufacturers fail the test, particularly at the 125°F 80% humidity level. Only products whose internal temperature and humidity level remains below the test limits during the entire heating and cooling processes are awarded the label. It is important to note that products which are "tested to UL standards" have not necessarily met or exceeded those standards, and may have actually failed the test.

Finally, the product is opened and examined to determine whether the contents are still in usable condition. The interior walls and components are checked for any evidence of heat or humidity damage.

One year after this initial test has been conducted; a sample product may be pulled out of production for retesting. The product must once again pass the original classification it was tested for to keep its UL label.

Fire and Impact Test:

After a product has passed the Fire Endurance Test, another sample of the same product may be tested for fire and impact. The sample is prepared in the same manner as the Fire Endurance Test. Then it is heated to a specific time and temperature. After the product has been exposed for the correct time period, it is immediately removed from the furnace and hoisted 30 feet off the ground. UL then drops the product within two minutes into a pile of broken brick on a concrete base. This is equivalent to a fall from a third story.

After the impact, the unit is carefully examined for any signs of rupture of insulation or parts, or openings into the interior of the product. Because products do not always land right-side-up in real life situations, the product is turned upside down after cooling. The product is then reheated to check exposure to heat.