Construction Requirements

Insulation used in record protection devices shall be of material capable of retaining its heat insulating properties to a degree equivalent to portland cement concrete or gypsum concrete.

Record protection equipment shall be so designed and constructed that doors, drawer heads, or other closures, locking mechanisms, and other movable parts are capable of repeated operation prior to test and so that repairs of moving parts can be made without damage to the insulating and fire-resistive qualities. Testing for such capability, however, is not within the scope of these requirements.

Record containers, safes, and filing devices may incorporate locking devices, but the effectiveness of such mechanisms is not within the scope of these requirements.

In addition, if gasket materials such as neoprene, rubber, foamed neoprene, foamed rubber or thermoplastic, are used. They must be treated to conform to specific properties detailed in UL72 tests for Fire Resistance of Record Protection Equipment.

U.L. Tests

*** Explosion Hazard Test**

An empty sample is closed, locked and placed into a furnace preheated to 2000°F. This temperature is maintained for 30 minutes (20 minutes for units rated ½ hour) and if no explosion results, the unit is allowed to cool without opening the furnace doors.

Once cooled, the unit is opened, dismantled and examinations made regarding the heat insulating properties of the sample such as condition of interior finish, security of interior equipment, locks, part fastenings, and any signs of undue transmission of heat or moisture.

**** Fire Endurance Test**

After the units' contents are placed inside and in contact with the interior walls, the unit is closed, locked, and exposed to a uniformly distributed fire, the temperature of which is regulated and increased according to the Standard Time-Temperature Curve summarized below. The fire is continued for the period required for the classification desired and allowed to cool without opening the furnace. The interior temperature is recorded throughout the test and during the subsequent cooling period until a definite drop is shown and must never exceed 125°F, 150°F or 350°F as the case may be. Once cooled, the unit is opened, dismantled and its contents examined for usability. The units' locking mechanisms and part fastenings are examined for security and the interior examined for any visible evidence of undue heat transmission.

Regular production units must again pass the Fire Endurance Test, 1 year after the first test or 1 year after production of the tested unit began.

Gardall® Safe Label Guide

U.L. FIRE RESISTIVE CONTAINER CLASSIFICATIONS

Taken from U.L. 72. Tests for Fire Resistance of Record Protection Equipment. March 11, 1983 Underwriters Laboratories Inc.

	PERFORMANCE REQUIREMENTS FOR:			
U.L. Label Type	Insulated Record Containers	Fire Resistant Safes	Insulated Filing Devices	Insulated Filing Drawers
CLASS 125 4 HOURS OR CLASS 150 4 HOURS	Maintain an interior temperature less than 125° or 150° F and an interior relative humidity less than 85% for class 150 or 80% for class 125, when exposed to fire as per the Standard Time Temperature Curve for 4 hours to 2000°F. Sucessfully undergo all other requirements for the Fire Endurance Test**, the Explosion Hazard Test*, the Humidity Test****, and the Fire & Impact Test*** (seperately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000°F fire, an immediate 30' drop test, and a standard reheating for 60 minutes to1700°F.		NOT RATED	NOT RATED
CLASS 125 3 HOURS OR CLASS 150 3 HOURS	Maintain an interior temperature less than 125° or 150° F and an interior relative humidity less than 85% for class 150 or 80% for class 125, when exposed to fire as per the Standard Time Temperature Curve for 3 hours to 1925°F. Sucessfully undergo all other requirements for the Fire Endurance Test**, the Explosion Hazard Test*, the Humidity Test****, and the Fire & Impact Test*** (seperately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000°F fire,30 minutes of standard exposure to 1700°F, an immediate 30' drop test, and a standard reheating for 60 minutes to1700°F.		NOT RATED	NOT RATED
CLASS 125 2 HOURS OR CLASS 150 2 HOURS	Maintain an interior temperature less than 125° or 150° F and an interior relative humidity less than 85% for class 150 or 80% for class 125, when exposed to fire as per the Standard Time Temperature Curve for 2 hours to 1850°F. Sucessfully undergo all other requirements for the Fire Endurance Test**, the Explosion Hazard Test*, the Humidity Test****, and the Fire & Impact Test*** (seperately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000°F fire, 15 minutes of standard exposure to 1638°F, an immediate 30' drop test, and a standard reheating for 45 minutes to 1638°F.		NOT RATED	NOT RATED

Abbreviated Time-Temperature Curve			
Minutes	Temperature degrees F	Minutes	Temperature degrees F
5	1000°	120	1850°
30	1550°	180	1925°
60	1700°	240	2000°

*** * * Fire & Impact Test**

After the units' contents are placed inside and in contact with the interior walls, the unit is closed, locked and exposed to the Standard fire as in the Fire Endurance Test for the period of time stated for that classification. Within two minutes, the unit is removed from the furnace and dropped 30' onto a riprap of brick on a heavy concrete base.

After impact, the unit is examined for deformation, rupture of parts, damaged insulation and any other openings into the interior of the unit. When sufficiently cooled for handling, the unit is inverted, reheated for the time stated and allowed to cool without opening the furnace doors.

Once cooled, the unit is opened, dismantled and examinations made regarding the heat insulating properties of the sample such as usability of contents, condition of the interior finish, security of locks, part fastenings and any signs of undue transmission of heat or moisture.

*** * * * Humidity Test**

After preconditioning, the unit is heated for 12 hours to obtain an interior temperature of 70±5°F and a relative humidity of 50±15 percent. The unit must successfully maintain an interior relative humidity less than 80% or 85% during its respective Fire Endurance Test and during that part of the cooling period when the interior temperature is above 120°F. Units are also examined for any signs of moisture penetration into the interior.

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Combined Explosion Hazard - Impact Test

At the manufacturer's option, both the Fire-Impact Test and the Explosion Hazard Test can be combined and conducted on one sample fire resistant safe or insulated record container as follows. The Explosion Hazard Test is first conducted. If no explosion results during 30 minutes at 2000° F, the furnace temperatures are to be reduced to those of the Standard Time-Temperature Curve and the fire continued for an additional 30 minutes for units to be rated 4 Hours, and for an additional 15 minutes for units to be rated 2 Hours. No additional exposure is required for units to be rated 1 Hour. After exposure to the fire for the total period necessary for the classification desired, the furnace fire is to be extinguished and the test sample withdrawn.

Within 2 minutes the unit is dropped from 30' into the riprap of brick on a heavy concrete base, examined, reheated and re-examined as per the requirements of the Fire and Impact Test

CLASS 125 1 or ½ HOURS OR CLASS 150 1 or ½ HOURS	Maintain an interior temperature less than 125° or 150° F and an interior relative humidity less than 85% for class 150 or 80% for class 125, when exposed to fire as per the Standard Time Temperature Curve for hours to 1700°F. Sucessfully undergo all other requirements for the Fire Endurance Test**, the Explosion Hazard Test*, the Humidity Test****, and the Fire & Impact Test*** (seperately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000°F fire, an immediate 30' drop test, and a standard reheating for 30 minutes to1550°F.			NOT RATED
CLASS 350 — 4 HOURS (old U.L. label "A")	Maintain an interior temperature less than 350° F when exposed to a fire as per the Standard Time Temperature Curve for 4 hours to 2000° F. Successfully undergo all other requirements for the Fire Endurance Test**, the Explosion Hazard Test* and the Fire & Impact Test*** (separately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000° F fire, 30 minutes of standard exposure to 1700° F, an immediate 30' drop test and a Standard reheating for 60 minutes to 1700° F.		NOT RATED	NOT RATED
CLASS 350 — 2 HOURS (old U.L. label "B")	Maintain an interior temperature less than 350° F when exposed to fire as per the Standard Time Temperature Curve for 2 hours to 1850° F. Successfully undergo all other requirements for the Fire Endurance Test**, Explosion Hazard Test* and the Fire & Impact Test*** (separately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000° F fire, 15 minutes of standard exposure to 1638° F, an immediate 30' drop test, and a Standard reheating for 45 minutes to 1638° F.		NOT RATED	NOT RATED
CLASS 350 — 1 HOUR (old U.L. label "C")	Maintain an interior temperature less than 350° F when exposed to fire as per the Standard Time Temperature Curve for 1 hour to 1700° F. Successfully undergo all other requirements for the Fire Endurance Test**, Explosion Hazard Test* and the Fire & Impact Test*** (separately or combined*****). Basically, no explosion through 30 minutes of exposure to a 2000° F fire, an immediate 30' drop test and a Standard reheating for 30 minutes to 1550° F.			NOT RATED
CLASS 350 — 1 HOUR (old U.L. label "D" applies to insulated filing devices only)	NOT RATED	Maintain an interior temperature less than 350°F when exposed to fire as per the Standard Time Temperature Curve for 1 hour to 1700°F. Successfully undergo all other requirements for the Fire Endurance Test** (Fire Only)	Maintain an interior temperature less than 350°F when exposed to fire as per the Standard Time Temperature Curve for 1 hour to 1700°F. Successfully undergo all other requirements for the Fire Endurance Test** and Explosion Test*. (no explosion through 30 minutes of exposure to a 2000°F fire).	NOT RATED
CLASS 350 — 1 HOUR (new U.L. label - applies only to insulated filing drawers)	NOT RATED	NOT RATED	NOT RATED	Maintain an interior temperature less than 350°F when exposed to fire as per the Standard Time Temperature Curve for 1 hour to 1700°F. Successfully undergo all other requirements of the Fire Endurance Test** and the Explosion Hazard Test*.
CLASS 350 — ½ HOUR (old U.L. label "E")	NOT RATED	NOT RATED	Maintain an interior temperature less than 350°F when exposed to fire as per the Standard Time Temperature Curve for ½ hour to 1550°F. Successfully undergo all other requirements of the Fire Endurance Test** and the Explosion Hazard Test*. (no explosion through 20 minutes of exposure to 2000°F fire).	NOT RATED