REFERENCE GUIDE · FIRE PROTECTION

SAFE FIRE RATINGS COMPARED

UL 72, EN 1047-1, EN 15659, NT Fire 017, JIS S 1037 and KS G 4500 side by side, and which rating you need for paper, data and media.

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Fire-resistant safes sold in Australia are rated to overseas standards: American, European, Nordic, Japanese and Korean. This guide puts them side by side, explains what each label means, and shows why a safe rated for paper is not suitable for hard drives, USB sticks or photos.

No Australian fire standard for safes. We have found no current Australian Standard that gives safes a fire rating. The withdrawn AS/NZS 3809 explicitly excluded fire testing.

Paper and data are rated differently. Paper ratings allow about 170 to 177 °C inside the safe. Data and media ratings cap it at about 50 to 75 °C, and most also limit humidity.

Ratings are time-limited. Every standard rates protection for a set time (for example 30, 60 or 120 minutes) under test conditions. No standard rates a safe as "fireproof".

Certified or self-tested?. Some ratings are tested by independent laboratories; others are the manufacturer's own claim. Look for the certifier's name on the label.

1. Fire rating schemes compared

Scheme	Class / level	Fire exposure	Max inside the safe	Humidity limit	Drop test	Suitable for
UL 72 (US, 17th ed. 2026)	Class 350 (177 °C)	Various durations*	177 °C	None	Optional (30 ft / 9.1 m)	Paper
UL 72	Class 150 (66 °C)	Various durations*	66 °C	Yes	Optional	Paper, magnetic tape, photographic records
UL 72	Class 125 (52 °C)	Various durations*	52 °C	Yes	Optional	As Class 150, plus flexible disks
EN 1047-1:2019 (Europe)	S 60 P / S 120 P	60 / 120 min	+150 K (about 171 °C)	None	Yes (fire shock and impact test)	Paper
EN 1047-1:2019	S 60 D / S 120 D	60 / 120 min	+50 K (about 71 °C)	85 %	Yes	Magnetic media, heat-sensitive documents
EN 1047-1:2019	S 60 DIS / S 120 DIS	60 / 120 min	+30 K (about 51 °C)	85 %	Yes	The most sensitive media

Scheme	Class / level	Fire exposure	Max inside the safe	Humidity limit	Drop test	Suitable for
EN 1047-2:2019	R60D, C60D	60 min	+50 K	85 %	Some types	Data rooms and containers; data media incl. SSD/flash
EN 15659:2019	LFS 30 / LFS 60 (formerly "LFS 30 P / 60 P")	30 / 60 min	+150 K (about 171 °C)	None	Not included†	Paper only; protection after the fire exposure is not ensured
NT Fire 017 (Nordtest, ed. 3)	60 / 90 / 120 Paper	60 / 90 / 120 min	+150 °C above start	None	None	Paper
NT Fire 017	60 / 90 / 120 Data	60 / 90 / 120 min	+50 °C above start	None	None	Normal magnetic media
NT Fire 017	60 / 90 / 120 Diskette	60 / 90 / 120 min	+30 °C above start	None	None	Media sensitive below 50 °C
JIS S 1037:2013 (Japan)	Paper (30 min to 2 h seen on products)	JIS standard curve	177 °C‡	See standard	See standard	Paper
KS G 4500 (Korea, reconfirmed 2025)	P / D / F; 30 min to 4 h‡	See standard	P 177 °C, D 66 °C, F 52 °C‡	See standard	See standard	Paper / magnetic tape / flexible disks

K (kelvin) figures are temperature rises above a starting temperature of about 21 °C; the approximate °C values are calculated. * The UL 72 scope refers to "various durations"; manufacturers commonly list ½, 1 and 2 hours for Class 350. † According to Svensk Försäkring (Swedish insurers' association). ‡ From a manufacturer catalogue (JIS) or a published article reproducing the standard (KS), not the standard text itself.

2. What should go in which safe

What you're storing	Temperature limit the standards use	Paper-rated safe OK?	Look for
Paper documents	170 to 177 °C	**Yes**	UL Class 350, EN 1047-1 P, EN 15659 LFS, NT Paper
Magnetic tape, photographic records	66 °C (UL) / 70 °C (EN, Nordtest)	No	UL Class 150, EN 1047-1 D, NT Data
Flexible disks and the most sensitive media	52 °C (UL) / 50 °C (EN DIS, NT Diskette)	No	UL Class 125, EN 1047-1 DIS
Hard drives	Example maker spec: 70 °C maximum when not operating (Seagate BarraCuda 2.5")	No	A data/media rating (Class 125 or DIS)
SSDs and USB flash drives	75 °C (EN 1047-2 data media)	No	A data/media rating
Film, CDs, magnetic cards	One maker lists these as unsuitable for paper fire safes	No	A data/media rating

Why paper safes are too hot for data

Paper-rated safes are allowed to reach about 170 to 177 °C inside and have no humidity limit. Many fire safes slow the temperature rise by releasing moisture from their insulation as steam. That works for paper but can damage electronics

and media, which is why data ratings set much lower temperature limits and cap humidity.

3. How to read a fire rating label

Label	What it means
UL Class 350, 1 hour	Kept the inside at or below 177 °C (350 °F) for 1 hour in UL's test. For paper.
UL Class 125, 1 hour	Kept the inside at or below 52 °C (125 °F), with humidity limits, for 1 hour. For data and media.
EN 1047-1 S 120 DIS	120 minutes' fire exposure, inside rise no more than 30 K and humidity no more than 85 %, including the fire shock and impact test.
EN 15659 LFS 60	"Light fire storage": 60 minutes for paper. The standard says protection after the 60 minutes is not ensured; for that it points to EN 1047-1.
NT Fire 017-120 Paper	120 minutes on the ISO 834 fire curve with the inside rising no more than 150 °C above its starting temperature.
"Fire resistant 60 min (in-house test)"	The manufacturer's own claim, not an independent certification. Ask for the test report.

4. Test conditions in brief

- **Furnace curves.** The Nordtest method uses the ISO 834 standard fire curve, which reaches roughly 840 °C at 30 minutes, 945 °C at 60 minutes and 1,050 °C at 120 minutes (calculated from the ISO 834 formula). UL describes its furnace reaching about 1,000 °F (538 °C) within about five minutes, then following a set temperature programme.
- **Drop tests.** UL 72's optional impact test drops the hot safe 30 ft (9.1 m), which UL says simulates "a fall from three stories", then heats it again. EN 1047-1 includes a fire shock and impact test. Nordtest's method has no drop test.
- **Explosion test.** UL 72 includes a test showing the safe can withstand sudden exposure to high heat without exploding from steam or gas.
- **Empty for testing.** Temperatures are measured inside the safe; the standards do not test with your actual documents or devices, and they rate performance during the fire, not whether the safe is reusable afterwards.

5. Australian context

- **House fires get very hot, quickly.** Full-scale residential flashover tests run for the Australian Building Codes Board at the CFA's Fiskville facility (1996) recorded flashover between about 6 and 14 minutes, and peak burn-room temperatures above 1,000 °C in every test that reached flashover. These are indicative results from 1996, not a prediction for any particular home.
- **Bushfire houses can burn after the front passes.** CSIRO research notes most houses are lost without direct contact with the fire front, and that houses "can ignite before, during, and after a fire front's passage", mostly from embers. CFA says embers usually land from a few metres up to 2 km ahead of the front.
- **Our view:** a house that ignites from embers may burn for longer than a 30- or 60-minute rating, with no one there to put it out. If you live in a bushfire-prone area, consider a longer rating and keep copies of irreplaceable documents off-site.

6. Common misconceptions

- **"Fireproof."** No standard certifies a safe as fireproof. The accurate wording is "fire-resistant for X minutes to class Y".

- **"A burglary-rated safe is also fire-rated."** Fire and burglary are certified separately; UL 72 excludes burglary resistance and the old AS/NZS 3809 excluded fire. Check for both if you need both.
- **"A fire safe is fine for my backup drive."** Not if it is rated for paper only. Use a data or media rating.
- **"Fire-rated means water-resistant."** Water resistance (from firefighting hoses or flooding) is a separate property; the fire standards we reviewed do not test for it. Check the manufacturer's specifications.
- **"A fire safe lasts forever."** One Japanese manufacturer gives about 20 years as the effective life of fire protection, as moisture in the insulation is gradually lost. After a fire, replace the safe.

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Important: This guide summarises published fire rating standards for safes. It does not certify or guarantee the performance of any product in a real fire. Precision Safes is a safe retailer and installer, not a law firm, insurer or certification body. Standards, regulations and insurer requirements change;

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