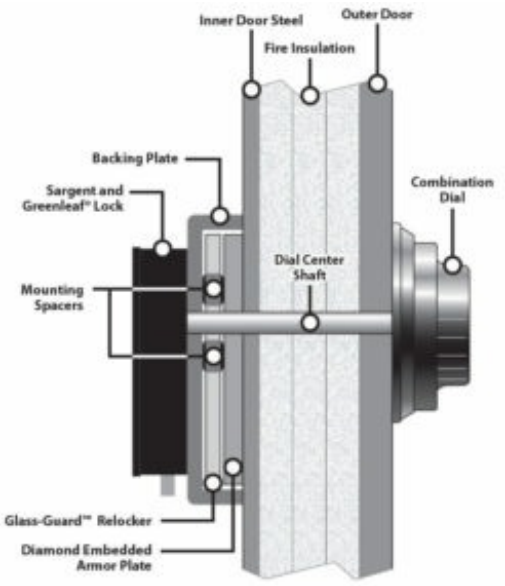
# Understanding Gun Safe Fire Ratings

A gun safe keeps the wrong people from accessing firearms, a gun safe protects investments from theft or damage, and a gun safe can protect a gun that has sentimental value to the owner. When purchasing a gun safe, fire ratings are often overlooked, but they should not be. In fact, the fire rating should probably be one of the more important considerations prior to purchasing a gun safe. When shopping for a gun safe, you may wonder what the fire rating means. Allow us to explain.

## What Makes a Gun Safe Fire Resistant?

**Type and Amount of Fire Insulation:** Gun safes are made with a material called gypsum. When gypsum is heated to 262°F, it releases water vapor that keeps the interior of the safe cool. ***The more gypsum a gun safe is made from, the longer the gun safe will remain cool and the higher the fire rating*** for that safe. A well-made safe will also be fully insulated with fire protectant on the inside.




**Steel Door Thickness:** Door steel thickness is also important to the fire resistance of a gun safe. Heat can cause metal to become distorted, and if temperatures rise above 1000°, ***thin light-weight doors are quickly ruined which can cause premature fire seal failure. Champion Safe Co. uses the thickest, American-made steel in the industry***.

**Safe Door Seal:** Good doors on gun safes have intumescent fire seals (that means the seals expand in extreme heat) that work when heated above 300°. When this happens, the ***seals can expand up to 10 times their original thickness which seals out heat and protects the things in the safe***. Double and triple seals are especially effective and can protect a safe and its contents are engulfed in fire for more than an hour. The ***fire seal will also seal out most daily moisture which can be beneficial in climates where humidity is an issue***. This can help keep rust and corrosion off of guns stored in the safe, and ***it also protects guns from water while someone is fighting the fire.*** Another reason the fire seal is so important is that if smoke were to get in the safe, the moisture could combine with the smoke and create an acid rain inside the safe that could destroy the finish on guns. No matter how good the fire rating is a poor door seal can still cause guns to be ruined in a fire.

## How Gun Safe Fire Ratings Are Measured?

Other manufacturers will label their gun safes “factory certified”, but these tests can be performed in the factory with no independent witnesses. It is possible that the rating could be the result of a “guesstimate” that is based only on the fire rating of the fireboard that was used. That means that a safe could be purchased and used without it ever being tested with fire. Some gun safes are tested by being thrown into a dumpster that is on fire. Since heat rises, this sort of test is not very accurate either. Another inaccurate way of testing the fire rating is putting a safe in a furnace that is started from zero. Then, it might take 40 minutes to reach 1350°, then the gun safe may be left in the fire for 20 minutes, and because it spent 60 minutes in the furnace, it is given a 1350° 60-minute fire rating.

***Certainly not all gun safes are given inaccurate labels and tests. However, it happens all too often.*** It is important to ask questions and do your own homework prior to purchasing a gun safe. Ask questions, and if you

cannot get straight answers, or if you're given the wrong answers, move on.

## Champion Gun Safes Are Tested in ASME Certified Facilities

***Champion gun safes are rigorously tested in an ASME certified facility***. Gun safes are put in a furnace with thermal couplings place in appropriate places inside the safe, and also connected to an external computer. Champion Safe uses four sensors around the safe for accurate measurement because heat rises and we need to keep our tests and the information gathered from the tests as accurate as possible. ***If any of the four sensors registers that the internal temperature reaches 350° or hotter, the test is over.*** When Champion's tests are conducted, the maximum temperature is set to 1700°F for a period of one hour, or 1850° for two hours, and then the safes are allowed to cool without opening the furnace to let the hot air out.

After the safe is cooled, it is opened and examined. Each mechanism of the safe is examined for security, and the interior is examined to determine if there is undue heat transmission.

***So what does this test mean?***

These tests mean that if you purchase a 1350° for 60-minute safe, your property will not rise above 350° if it is in a 1350° fire for 60 minutes. If the rating is 90 minutes at 1680°, then the contents of a safe can survive for 90 minutes if the safe is subjected to a fire for 90 minutes burning at 1680°.


## What Gun Safe Fire Rating Do I Need?

Each consumer will have to determine what level of fire protection is adequate for their unique needs. Some determining factors you should consider include:

- ***How long will it take the fire department to get to you*** if you have a fire?
- The sensitivity of ***what you keep in your safe***. Paper discolors at 350°, chars at 405°, and burns at 451°.
- What is the rating on a safe, and ***how was the safe fire tested?***
- What is the ***warranty***, if there is one if there is a fire?


## Champion Fire Rated Gun Safes

***Don't waste your hard earned money on a safe that won't protect your guns, ammo, and other valuables in the case of a fire.*** Remember that protecting your guns and valuable from theft is part of the value of a safe, fire protection is also important. There may also be discounts available for homeowners who have a fire-rated safe. Check with your tax preparer because keeping those documents in your gun safe might make you eligible for a write-off

For further questions about gun safe fire ratings, contact the folks at Champion Safe Co. today.