

# Safe Burglar Ratings Explained

Burglar ratings are a mix of manufacture standards and Underwriters Laboratory burglar ratings. A general guideline for the type of safes versus the content value is as follows (you should always ask your insurance broker to contact Underwriters Laboratory for additional recommendations on content value storage).

These ratings and content values are guidelines only:

| Burglar Rating                          | With Burglar Alarm | NO Burglar Alarm |
|---|--------------------|------------------|
| B-Rate <a href="#">Learn More</a>       | UP TO \$10,000     | UP TO \$5,000    |
| B/C Rate <a href="#">Learn More</a>     | UP TO \$20,000     | UP TO \$10,000   |
| UL RSC <a href="#">Learn More</a>       | UP TO \$30,000     | UP TO \$15,000   |
| C-Rate <a href="#">Learn More</a>       | UP TO \$50,000     | UP TO \$25,000   |
| UL TL-15 <a href="#">Learn More</a>     | UP TO \$200,000    | UP TO \$100,000  |
| UL TL-30 <a href="#">Learn More</a>     | UP TO \$375,000    | UP TO \$195,000  |
| UL TL-30X6 <a href="#">Learn More</a>   | UP TO \$500,000    | UP TO \$275,000  |
| UL TRTL-30X6 <a href="#">Learn More</a> | UP TO \$1,000,000+ | UP TO \$500,000+ |

**Question: What are these ratings?**

**Answer:** These ratings are based on years of conversations with insurance company underwriters who set the maximum insurable limits for safes for their

companies. We have spoken with Lloyds of London, Chubb Insurance, and Jewelers Mutual who insures 75% of all jewelry stores in the United States. These are guidelines intended to help you decide which burglar rating is best for you. Safe manufactures do not guarantee these amounts, however, we are sharing them with you to help you make an informed safe buying decision.

**Burglary & Gun Safes:**

**California Department of Justice Construction Standard (CDOJ) (This is NOT a TRUE burglar rating. It is a minimum construction standard)**

Regulatory Gun Safe Standards DOJ regulatory standards require a gun safe to meet ALL of the following requirements:

1. Shall be able to fully contain firearms and provide for their secure storage.
2. Shall have a locking system consisting of at minimum a mechanical or electronic combination lock. The mechanical or electronic combination lock utilized by the safe shall have at least 10,000 possible combinations consisting of a minimum three numbers, letters, or symbols. The lock shall be protected by a case-hardened (Rc 60+) drill-resistant steel plate, or drill-resistant material of equivalent strength.
3. Boltwork shall consist of a minimum of three steel locking bolts of at least ½ inch thickness that intrude from the door of the safe into the body of the safe or from the body of the safe into the door of the safe, which are operated by a separate handle and secured by the lock.
4. Shall be capable of repeated use. The exterior walls shall be constructed of a minimum 12-gauge thick steel for a single-walled safe, or the sum of the steel walls shall add up to at least .100 inches for safes with two walls. Doors shall be constructed of a minimum of two layers of 12-gauge steel, or one layer of 7-gauge steel compound construction.
5. Door hinges shall be protected to prevent the removal of the door. Protective features include, but are not limited to: hinges not exposed to the outside, interlocking door designs, dead bars, jeweler s lugs and active or inactive locking bolts.

or ALL of the following requirements:

1. Is listed as an Underwriters Laboratories Residential Security Container;
2. Is able to fully contain firearms;

3. Provides for the secure storage of firearms.

1.

### **Burglar Safes:**

Burglar safes are usually made of solid steel plate or a combination of solid steel and composite fill material such as concrete. These safes are divided into categories based on the level of protection delivered and the testing endured. Here we will discuss only seven classes: B-Rate, U.L.

RSC Rating, B/C Rate, C-Rate, U.L. TL-15, U.L. TL-30 and TL-30 X6.

### **B-Rate Safes (Also U.L. RSC, Residential Security**

### **Container):**

B-Rate is a catch all safe industry rating for essentially any box with a lock on it. The safe industry had an unwritten standard of ¼ inch body, ½ inch door. Today, many safe companies use 1/8" steel in the body. Some will make both 1/8" and 1/4" steel bodies. The 1/4" costs more. As steel prices (and shipping costs) increased manufacturers tried many things to reduce their costs. **No tests are given to provide this rating.** When buying a B-rate safe, look at things such as lock work, hard plates, and relockers.

### **Residential Security Container (RSC):**

**U.L. Residential Security Container rating (RSC)** - This UL rating is based on testing conducted for a net working time of five minutes, on all sides, with a range of tools. Underwriters Lab conducts the test and provides certification to the safe manufacturers. See U.L. TL-15 and TL-30 descriptions below for "net working time" description.

Burglary Classification Residential Security Container (RSC) signifies a combination or keylocked unit designed to offer protection against entry by common mechanical tools. Performance tests are conducted against the entire unit. The basic standard used to investigate in this category is UL 1037, "Anti theft Alarms and Devices.

1. An Anti-theft device, as defined by Paragraph 1.3, shall resist at least 5 minutes of attack that would defeat its purpose.
2. Any disassembly of the protected property required to make it removable, is to be included in the 5 minutes of attack test.
3. The tools used in the test are to include hammers, chisels, adjustable wrenches, pry bars, punches and screwdrivers. The hammers are not to exceed 3 pounds in head weight, and no tool is to exceed 18 inches in length.
4. The product under test is to be mounted securely in its intended position, and the attack is to be carried out by one operator.

### **Residential Security Container (RSC II):**

The RSC II test is similar to the standard RSC test, however, the product must be able to withstand a ten-minute attack by two technicians who use more aggressive tools such as picks, high-speed carbide drills and pressure applying devices. In addition, the technicians (who are the best safe crackers in the world) will attempt to make a six-square-inch opening in the door or the front face of the safe. The product must resist their efforts.

### **B/C-Rate Safes**

This is a catch all rating for safes with at least a 1/4" steel body, 1/2 inch door PLUS additional 10 or 12 gauge metal layers where composite fire resistant material is also deployed. **No tests are given to provide this rating.** Look at the lock work, relockers and other features when making your decision.

### **C-Rate Safes**

This is defined as a 1/2 inch thick steel box with a 1-inch thick door and a lock. As before, **NO tests are given to provide this rating.** Look at the lock work, relockers and other features when making your decision.

## **Underwriters Laboratories Inc. (UL) High Security Burglar Ratings**

<https://www.ul.com>

### **TL-15**

Safes given a U.L. TL-15 rating have all passed standardized tests defined in UL Standard 687 using the same tools and usually the same group of testing engineers.

#### **Construction Requirements**

- U.L. listed Group II, 1 or 1R combination lock. In addition, these safes may be provided with UL Listed High Security electronic locks which **MUST** be rated "Type 1".
- 750 lbs. minimum or comes with instructions for anchoring in a larger safe, concrete blocks or on the premises where used.
- Body walls of material equivalent to at least 1" open hearth steel with a minimum tensile strength of 50,000 P.S.I.
- Walls fastened in a manner equivalent to continuous 1/4" penetration weld of open hearth steel with minimum tensile strength of 50,000 P.S.I.
- One hole 1/4" or less, to accommodate electrical conductors arranged to have no direct view of the door or locking mechanism.

#### **Net Working Time Definition:**

The label means that the safe successfully resisted entry (i.e. opening the door or making a 6" square opening entirely through the door or front face) for a NET working time of 15 minutes using "...common hand tools, drills, punches

hammers, and pressure applying devices." Net working time means simply "when the tool comes off the safe the clock stops". There are over fifty different types of attacks that can be used to gain entrance into the safe. Usually they will try only 2 or 3 based on what they know about the product, and they know a lot.

### **Common Misunderstanding of UL Ratings:**

The NET working time of 5 minutes for the RSC Burglar Rating, 15 minutes for the TL-15 and 30 minutes for the TL-30 are often thought to be the amount of time it takes to break into a safe. This is FALSE. Our safe crackers who are legally breaking into safes for our customers, have the knowledge, correct tools and plenty of time can often take from 1 hour to 8 hours to break into a safe legally. It all depends on the skill of the safe cracker, how much information he has about the safe construction and even some "luck". Any safe can be broken in to. The higher the UL Burglar Rating, the more time it takes to break into the safe.

### **TL-30**

Construction requirements are identical to the TL-15 above. Tests are essentially the same as the TL-15 tests except for the net working time. Testers are allowed 30 minutes and a few more tools (abrasive cutting wheels and power saws) to help them gain entrance. The label signifies the testers were unable to open the door or make a 6" square opening entirely through the door or front face within 30 minutes. Keep in mind these engineers have the manufacturing blue prints and can disassemble the safe being tested before the test begins to see how it works. They know their stuff.

### **TL-30X6**

TL-30 x 6 - The TL-30 (30-minute) test is conducted on all six (6) sides of the safe. This test signifies a combination-locked safe is designed to offer a maximum six-sided body and door protection against an attack by common mechanical and electrical hand tools and any combination of these means.

#### **Construction Requirements:**

- U.L. Listed Group 2M, 1, 1R combination lock or Type 1 electronic lock.
- 750 pounds minimum or comes with instructions for anchoring in a larger safe, concrete blocks or on the premises where used.
- Body walls of material equivalent to at least 1" open hearth steel with a minimum tensile strength of 50,000 P.S.I.

- Walls fastened in a manner equivalent to continuous 1/4" penetration weld of open hearth steel with minimum tensile strength of 50,000 P.S.I.
- One hole 1/4" or less to accommodate electrical conductors arranged to have no direct view of the door or locking mechanism.

#### **Performance Requirements:**

The body and door successfully resist entry\* for a net working time of 30 minutes when attacked with common hand tools, picking tools, mechanical or portable electric tools, grinding points, carbide drills and pressure applying devices or mechanisms, abrasive cutting wheels and power saws.

*\*Entry means for: Opening the door or making a 6" square opening entirely through the body, door or front face.*

#### **TRTL-30-X6**

**TL** - Tool Resistant

**TR** - Torch Resistant

**X6** - Test done on all six sides of the safe

**30** - 30 minute test done on the safe. This is the amount of time the safe can withstand an attack.

The TR in the TRTL-30-X6 stands for torch resistance. This means that the safe is torch resistant on all six sides of the safe. The TL stands for tool resistance. This means that the safe is tool resistant on all six sides of the safe. This is one of the highest burglar ratings on the market.

#### **Other Considerations**

When you begin the search for a safe it is a good idea to speak to your insurance agent and see if a particular type of safe will reduce your insurance costs. Many times you can justify the additional expense of a higher security safe because of the premium reduction. Remember no safe is burglar proof, you are buying time. The longer it takes to break in the greater the chance to be caught, and thieves don't like to get caught.

#### **10 Things You Didn't Know About UL's Safe Testing**

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- 5. The best safecrackers in the business never steal a penny. They work for UL.
- 6.
- 7. UL has been testing and certifying safes for more than 80 years. The first safe tested for burglary resistance was in 1923 and the first bank vault in 1925.

- 8.
9. Chisels, wenchers, screwdrivers, power saws, cutting torches, crowbars, abrasive cutting wheels, jackhammers, even specified amounts of nitroglycerin are just a few of the "tools" UL technicians use during a safe attack. The idea is to test safes to worst-case scenarios. They use tools that could be found at any construction site or hardware store. They also analyze blueprints as if the burglar might have blueprints of the design and attack its weakest points to evaluate the safe for certification.
- 10.
11. UL's safe attack tests are conducted by a two-person crew. The object is to create an opening large enough to withdraw "valuables" (anywhere from 2- to 6-square-inches on a safe and up to 96-square-inches on a vault), activate the locking mechanism so the door opens or to cut as many bolts from the door as necessary to pry it open before the time specified in the rating requirement expires.
- 12.
13. Safes are rated for their resistance to attack against specific tools for a set period of time. There are a dozen different ratings, everything from ATM machines, to gun safes to bank vaults. For example, a safe that bears a Class TRTL-15X6 rating, which might be found in a jewelry store, should resist a hand tool and torch attack for a minimum of 15 minutes. A TRTL-30X6-rated safe, which would protect important documents or store money, should withstand an attack for 30 minutes. The ultimate safe rating-a TXTL60-should withstand an hour's worth of attack that includes the use of 8 ounces of nitroglycerin.
- 14.
15. Because of the size and weight of certain safes and vault doors, it is not always practical to have the product shipped to UL's laboratory locations. UL's burglary protection staff has traveled to destinations such as Japan, France, Israel, England, Finland, Taiwan and India.
- 16.
17. In addition to burglary protection ratings, UL also rates safes for their fire resistance protection. Class 350 safes protect paper

documents, Class 150 safes protect magnetic tape and photographic film, while Class 125 safes protect floppy disks. In addition to the Class Rating, safes obtain an hourly rating for fire resistance-anywhere from 30 minutes to four hours.

18.

19. Another cool test UL runs on safes is an impact test. This test simulates a safe falling through multiple stories of a building- resulting from a fire that has weakened the structure. After the safe is heated to 2,000 degrees Fahrenheit in a furnace, it's raised three stories and dropped onto a pile of bricks. In order to meet the requirement, the safe can't pop open. Temperatures inside can't rise to above 300 degrees Fahrenheit and sample papers left inside have to be readable.

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21. The specialized suits you sometimes find technicians wearing are not just for show. Their entire ensemble, including protective coat, helmet and gloves, protects the crew against the adverse effects of sparking. After all, safety can't be taken for granted, even within the walls of UL.

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23. Safes are just one of the 19,000 product categories that UL tests and certifies. While UL's burglary protection team cracks combinations, shatters glass and fires .44-caliber bullets at body armor, other UL engineers and technicians keep busy testing everything from TVs, coffee makers and holiday light strings to fire extinguishers, medical CAT scan equipment and building materials.