Brisbane locksmith makes world's first 3D printed security safe

locksmith in Brisbane makes 3D printed safes for mining industry

A safe 3D printed in plastic might not sound all that secure. The makers of this 3d printed safe, 24 Hour locksmiths Brisbane say that the safe is not designed for keeping millions of dollars in. In fact it was made for a very specific purpose.

The safe was made for clients in the mining industry who required a non metal safe for storage of sensitive and explosive products. Metal can cause sparks and be the source of ignition in certain circumstances. Plastic has very different properties and can not spark in the same way.

The mining company who ordered the safes' construction had specifications required by laws and regulations for keeping explosives in Australia. The safe had to be of a secure design, with a high security lock. The safe also had to have a “key lockout mechanism” and if the safe was ever compromised, there needed to be evidence. Evidence that the safe has been breached or broken into is a major safety issue when you are dealing with explosives.

To make a 3d printed safe with a high security lock, key lockout system and made entirely of plastic presented the Brisbane locksmiths with a real problem. There is no lock available in plastic or metal that fitted the requirements for this safe.

A solution to the key changeable lock, came from a safe manufactured over 100 years ago by an English safe company, Ratner safes. Ratner safes patented a safe lock which basically changed the combination of the lock each time the safe was unlocked with the key. This was precisely what was required for the all plastic safe. Once the safe was locked with a particular key, no other key would be able to operate the safe. Once unlocked, another key design could lock the safe and lock out all other keys.

The old safe lock had to be redesigned to be able to be 3D printed. Some parts had to be made bigger and stronger to withstand greater forces and some of the parts could be made in ways the original metal lock could not be manufactured. The reproduced 3D printed safe lock kept the original lever and disc design, making the lock a true high security safe. Even the 3D printed keys were redesigned for strength and durability.

The safe body was 3D printed in one piece with no joins. With no joins it was totally sealed and any evidence of the safe being compromised would be evident. The Brisbane locksmiths say the safe can be scaled to a larger size and almost any requirement can be easily added with changes to the design before it is printed on a large 3D printer.

The safe could have many other uses then the mining industry. As it is constructed in all plastic, it is undetectable by metal detectors. Well hidden the safe could remain undetectable in hi tech searches. The safe is also resistant to acids and most chemicals. This makes the safe usable in many environments a metal safe is not.

The original safe lock was used by banks, jewelers and even the Queen, to keep valuables safe from thieves. The Brisbane locksmith who developed this new 3D printed safe said it is designed for valuables of a different sort. The valuable items are generally of a higher safety concern where knowing you locked them in a safe with your key can save lives.

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