

GSTIN : 29AABFJ2719C1ZO IEC : 00710030274

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SECURITY FASTENINGS GUIDE

The need to safeguard against theft and vandalism in now becoming an essential part of design specifications.



Increasingly in this competitive world, public and private property has become highly vulnerable to tampering, vandalism and theft.

Impact of Theft and Tampering.

- Pliferage of Goods
- Vandalism Destruction of valuable property.
- Lost revenue due to pilferage
- Liability claims due to tampered equipment.
- Damage to Reputation of the firm because of equipment downtime.
- Breakdowns leading to downtime and loss of productivity.
- High Maintenance costs for tampered parts.
- Negative impact on public safety due to vandalised public amenities.

One way to minimise or eliminate theft, tampering and vandalism is to use Security Fastening solutions.



Security fasteners are specially designed fasteners which cannot be removed using standard screwdrivers or spanners thus preventing theft, vandalism and tampering by unauthorised individuals. Virtually every industry, from retail stores to governmental security has issues with theft, loss prevention and vandalism.

Security Screws are certainly a worthwhile consideration in not just preventing theft, but also for manufacturers to prevent unwanted tampering of their products.

It's likely that you've seen various iterations of the following message featured in product instruction manuals or even on products themselves: "Do not attempt to take this product apart, ensure that a qualified professional is sought". This particularly features in electrical products where opening up the product could result in electric shock.



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The use of security screws would be ideal in such instances by manufacturers of products ensuring that it is made difficult for an end user to take the product apart.

Similarly, furniture manufacturers may wish to prevent furniture from being taken apart once

it has been manufactured and is in the customer's home.



It may be intricate to put back together once removed and require a professional, or it may even compromise the safety of the furniture.

Simply replacing standard fixings with

security fixings will prevent the amateur user from tampering with it.

It may also be useful to employ tamper proof screws in products where you would like to be the only option for maintenance and repair. This would mean that users would not be able to attempt to fix their product, hence preventing them damaging the product further through attempting to fix internal mechanisms should things go wrong.

WHAT INDUSTRIES NEED TAMPER PROOF SCREWS?

Tamper resistant and tamper proof screws are needed by industries far and wide. Some have minimal expectations with security fasteners. They employ tamper resistant screws to deter casual or opportunistic temptation. Other industries have tight security requirements and go to expensive measures for protection.

Each industry has its own reasons to use anti-tampering devices. Some are concerned with loss prevention and deterring theft. Others use them to stop unlawful entry. Some industries have serious concerns about sabotage and use highly advanced fasteners to protect their assets.

Many industries use tamper proof screws to prevent equipment owners and users from doing their own maintenance. That cuts the manufacturer or supplier from profiting from maintenance contracts. End-user maintenance is often insufficient and actually makes matters worse. Tamper resistant or tamper proof fasteners give assurance that inferior hands won't meddle in specialized work.

When you examine what industries use tamper proof screws, you'll find a broad range that benefit from the additional protection these security fasteners provide. Some are highly advanced industries where people's lives are at stake. Others are less sensitive but can suffer needless loss from unwanted access. Here are some of the industries using tamper proof screws.



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AEROSPACE MANUFACTURERS AND MAINTAINERS



Tamper proof screws are installed on everything from rockets to jet fighters.

This allows access to only highly skilled workers with specialized tools. These aeronautic fasteners protect the lives of pilots and passengers.

AUTOMOTIVE MANUFACTURING

You'll see many advanced screws, nuts and bolts in car and truck construction. Some of it is for safety devices like seatbelts and airbag controls. Other tamper

proof screws are used in engines and transmissions to discourage backyard maintenance.



Number Plates of Vehicles is another common usage segment where security

screws are used to prevent vandals from removing the licence plates.

COLLEGES AND UNIVERSITIES

College and university campuses routinely use tamper proof screws.



They discourage thefts, vandalism and misappropriation of desks, furniture and electronic devices. It's not just students and staff who present problems.

Campuses are often targets for mobile thieves. They protect costly classroom/ lab equipment with anti-theft security screws.



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CORRECTIONAL FACILITIES

Inmates can be notoriously curious and destructive.



They can also be incredibly clever in concocting means to cheat fasteners to remove or damage jail equipment. Prison escapes are also prevented.

Tamper proof screws prevent expensive damage in correctional facilities as even the most skilled crooks can't defeat security fasteners.

HOSPITALS AND MEDICAL FACILITIES

Tamper proof fasteners are regularly employed on medical equipment as well as for securing areas and property.



Some medical devices are extremely expensive and sensitive. With patients' lives resting on properly functioning equipment, hospitals and medical facilities can't afford the risk of tampering. That includes both intentional and accidental access and alteration.

MILITARY INSTALLATIONS

All military branches use tamper proof screws right across their installations. Tamper





They're used to prevent theft vandalism and, of course, sabotage.



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PUBLIC PLACES

Many cities and municipalities use tamper proof screws to protect property in public places.



Anywhere the public converges, you'll find security devices. Public Signages and fencing are also prime examples of usage of security fasteners. Tamper resistant fasteners are no exception to protecting public safety and property.



They are also used to prevent manhole covers and other access points from being breached.

RECREATIONAL VEHICLES AND BOATS

The RV and marine industries extensively use tamper resistant fasteners. They protect vital components untrained and unauthorized individuals shouldn't be touching. That includes fuel supplies and electrical components. Both present potential disasters if improperly accessed.



Tamper resistant fasteners are also useful in a number of sporting equipment to ensure safety.

RETAIL OUTLETS

Stores and shops are prime candidates for thefts. High value and high-risk property and



displays are protected through fastening goods down with tamper proof screws and tamper resistant bolts.

These simple security devices save companies thousands of dollars in inventory losses.



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PRIMARY AND SECONDARY SCHOOLS

Kids can be curious and mischievous. Sometimes they're downright destructive. Tamper proof and tamper resistant screws prevent small hands from getting into places they shouldn't be.

TRANSIT PROVIDERS



You'll find all sorts of tamper proof products on planes, trains and busses.

Public transit systems serve hundreds of thousands of passengers who may be tempted to remove property or examine unauthorized places.

Tamper proof screws provide extra precaution to make sure daily rides remain routine.

UTILITY COMPANIES

Tamper proof fasteners are widely employed by utility companies. Electrical panels and



meters are prime spots for serious trouble when entered by untrained individuals.

It's the same thing with gas meters. Many utility companies have specific fasteners that are unique to their industry. Primarily, that's for safety, but it also prevents utility theft. They also use tamper resistant solar screws/ bolts to prevent theft of expensive Solar Panels.

Many people don't notice tamper proof screws until they attempt to get into something that uses them. Sometimes mistakenly called tamper resistant screws, these anti-theft and anti-vandalism fastening devices are ingeniously designed to foil unauthorized attempts at removal. There's no one-size-fits-all with a tamper proof screw. They come in all sorts of shapes and styles. That's for good reason, as they have a special job to do.

If you're in the market for tamper proof or tamper resistant screws, bolts or nuts, you need information about what fastening devices are best for your application. You might protect your liability by stopping unauthorized entry. Or you could prevent theft or vandalism that prying eyes, hands and tools attempt.

The challenge in deciding what security fasteners are best is that there are so many different types available. All have specialized placement, and some appear outright foreign. The first thing to know is tamper proof and tamper resistant are different terms.

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TAMPER RESISTANT SCREWS VS. TAMPER PROOF SCREWS

If you're wondering the difference between tamper resistant vs. tamper proof screws, you're not alone. There's a misconception that tamper resistant screws are the same thing as tamper proof screws as well as other security fasteners like tamper proof bolts and nuts. It's not just a play on words. Tamper resistant and tamper proof are two different applications. "Resistant" means it's hard or difficult to remove a fastening device. "Proof" means it's next to impossible.

Tamper resistant theory dictates a screw, bolt or nut is designed to be installed and removed with a specialized tool made specifically for that fastener. It's unlikely the average person wanting to loosen such a screw would have anything but ordinary tools available. They might have a slotted or Phillips screwdriver but not likely be carrying a torx or clutch driver. To get inside or make off with something valuable, they'd need to source the tool and return.

Tamper resistant screws are designed differently than tamper proof security fasteners. They're more commonly available than tamper proof fasteners, and the tools used to remove them are somewhat universal.

There's only so much protection you can get with readily available tamper resistant screws, nuts and bolts. Entering or removing an object secured with tamper resistant fasteners requires a bit of planning, but it's not beyond the average person's capability. But usually, most people simply won't bother with something secured by tamper resistant screws.

WHY USE TAMPER RESISTANT OR TAMPER PROOF SCREWS?

Tamper resistant screws' purpose is in making security violations challenging. They thwart opportunistic attacks but offer slight defence against deliberate intentions. If someone's bent on entering or removing an object, they'll find a way. You can say tamper resistance is a first-line, but low-level, security measure.

Tamper proof theory goes a lot further. To be tamper proof, it requires the screw, bolt or nut be physically impossible to remove without the proper tool. It might even take drilling or cutting the fastener out. Tamper proof tools can be extremely unique. Some tamper proof bits have proprietary designs that require documented rights to purchase or possess the tool.

You can say tamper proof screws raise the security bar. They're a notch above tamper resistant screws which are a notch above standard screw heads. It really depends on your purpose when deciding if you need tamper resistant screws or go the step up to truly tamper-proof devices.



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COMMON USES FOR TAMPER PROOF BOLTS AND SCREWS

If you can imagine it, you'll find a use for tamper proof bolts and screws. Primarily, these anti-tampering fasteners are used to deter people from trying to remove them. Some are fairly simple. Others are highly complex. It really matters what you're trying to protect when selecting a tamper proof screw. Here are some of the common uses for tamper proof securing products:

- Access points
- Artwork
- Computers
- Consumer product displays
- Digital cameras
- Electrical devices
- Engine components
- Glass panels and Hinges
- Inmate furnishings
- License plates and Wheel Locks
- Manholes, Waste Bins and Park Benches
- Outdoor play equipment
- Planters
- Safety rails, Signs and Scaffolding

HOW TO CHOOSE THE RIGHT TAMPER PROOF SCREW

Choosing the right tamper proof screw depends on what you'll use it for and where you intend to place it. Just like there are a lot of sizes, compositions and threads available, there are a lot of different uses for them. Choosing the right screw depends on four main factors:

The security level you desire

Tamper Resistant Screws are the starting level with some designs that are now being produced in many countries and availability of removal tools becoming available





easier than before. They do however provide the first line of defence and deter the casual vandal or tamperer and also a product user who may not open the product for selfmaintenance.

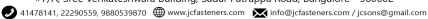
Example of this design is the PIN-HEX or HEX-SOCKET-PIN.



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A higher level of security is obtained by different designs like the 6-Lobe or PIN-TORX and Two-Hole or Snake-Eye designs. The availability of removal tools is lesser and production costs higher.

Whether you intend to remove them or not



Permanent security fasteners do not provide the facility of reuse and have to be broken to open.

These are Tamper-Proof options. The One-Way Screws which is a low torque fastener that is tightened using a normal screw-driver is one such example.



Shear Bolts and Shear Nuts which provide a very high level of security and are tightened using a standard spanner are another option.

Removable Security Fasteners need special tools for installation and removal of the fastener.



These are non-permanent security types. The Pin-Hex, Pin-Torx, Two-Hole, 5-Lobe are examples of such screws.

KMR Nuts are one such type of reusable nuts.

How much strength you require for the assembly.



Due to the inherent design constraints, most security fastenings are not suitable for very high torque applications.

For low torque applications, the One-Way, Two-Hole and PIN-HEX drives are suitable and for medium to high torque applications, the 6-Lobe-Pin and 5-Lobe-Pin drives are better.

The Shear Bolts and nuts can be customised for medium to high torque applications.



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What finished appearance or look you intend to display.





Aesthetically pleasing, Two-Hole Screws are popular with Architects

This is an aesthetic call that the designer has to make while balancing the security level, strength and cost.

The Two-Hole or Snake Eye design is preferred for an aesthetically pleasing finish.

Finally, your security level depends on what product or place you're protecting. Strength is also and important factor, and it depends on the metal composition as well as head design. Appearance is a personal issue. That takes into account how visible they'll be. But one of the biggest factors in choosing the right tamper proof screw is whether you intend to remove it.

Premium security screws

For high security applications then a premium security fastener is the best option. These have a more complex drive design and are installed and removed using a specialist tool that is not available in the traditional outlets.



The 5-Lobe Pin design is one such example of this.

TIP: When your assembly requires a bolt-nut solution, consider using a Blind Rivet Nut on one side to make it non-removable. This allows you the flexibility of selecting a suitable tamperproof screw.

To know more about these rivet nuts read https://www.jcfasteners.com/products/rivets-and-riveting-tools/goebel-range-of-rivets/goebel-blind-nuts-2/

You can view the available security fastening options from the below link.

https://www.jcfasteners.com/products/anti-tamper-proof-security-screws/