

FREQUENTLY ASKED QUESTIONS

How does the ONESIDE™ fastener work?

ONESIDE™ fastening system uses the principles of a standard nut and bolt with the inclusion of an innovative collapsible washer and corresponding installation tool. The fact that the bolt and collapsible washer are sent through the hole in sequence makes this product unique and truly structural as no material is deformed or depends on friction to achieve the desired clamp force. **ONESIDE™ provides exactly the same CLAMP FORCE every time.**

How does ONESIDE™ save the end user money?

ONESIDE™ can deliver substantial cost savings through removing complex and time-consuming operations, such as tapping holes and welding fixtures. Often tapping large holes through thick plate can be a difficult exercise. Similarly, welding requires a high degree of expertise, comprising labour intensive preparation time along with lengthy procedures. Some environments like telecommunications, mining or oil and gas industries have issues with welding procedures, ie, flammable/explosive situations **ONESIDE™** offers some clear advantages.

In many instances, engineers would prefer to rely on structural strength bolted joints rather than rigid welded connections.

Can ONESIDE™ only be used with steel hollow sections?

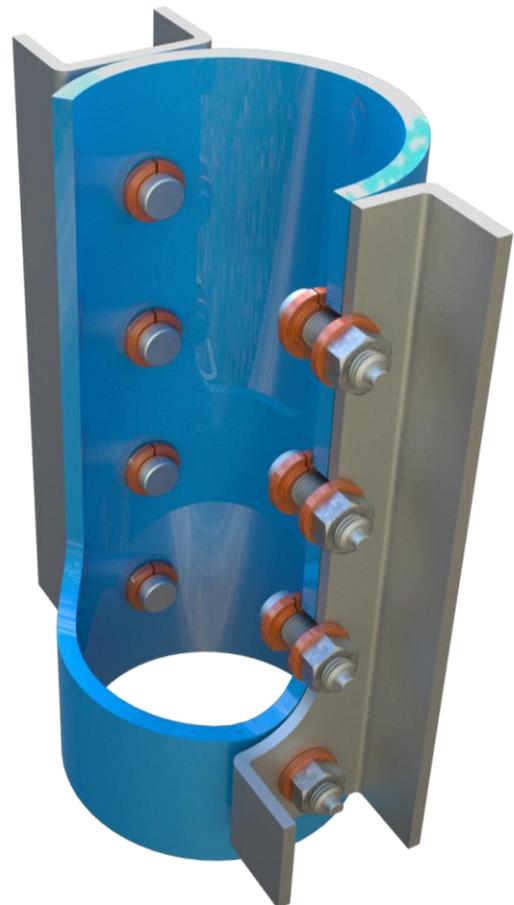
ONESIDE™ should not be thought of as a fastener limited to fully enclosed joints. Large savings can also be achieved where high costs are associated with gaining safe access to the structure. **ONESIDE™** is suitable for fastening decking onto bridge girders and can eliminate the need to set-up expensive scaffolds or hire cranes to get access to the other side of the joint. The product is suitable for many other materials, such as fibre composites and ceramics; must be taken due to the very high clamps loads that can be achieved.

What Sizes and clamping lengths does ONESIDE™ come in?

ONESIDE™ fastening system is stocked in M16 & M20 grade 8.8 products. Special orders can be supplied in other grades such as 10.9 or 12.9 if required. Clamping lengths possible are from 5mm to 120mm currently. Where required speciality product can be made to order.

How does ONESIDE™ compare with other products?

ONESIDE™ fastening system far exceeds all other products in the market place for structural requirements. It achieves clamping loads **3 times** greater than Expansion type bolts, offering complete structural integrity. Furthermore, **ONESIDE** does not slip at lower loads. Hence it is the only fastener that is suitable for joints subject to significant fluctuating loads.

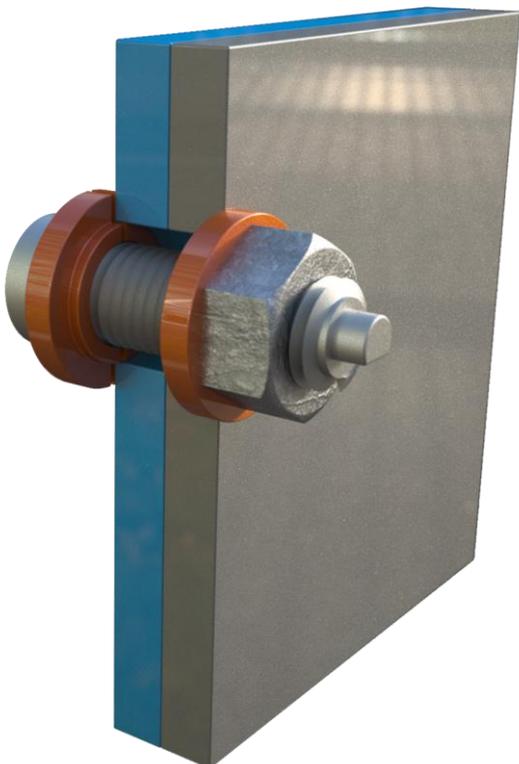


Can ONESIDE™ be removed once installed?

ONESIDE™ can be removed once installed, by simply un-screwing the nut. The section can then be removed from the structure, remedial works or a larger section can then be installed. Bolts and split washers cannot be re-used as they cannot be recovered. A new **ONESIDE™** product can be installed in the same connection, once remedial works have been undertaken. **No other product has this flexibility.** As the only way to remove is to cut the fastener or drill out.

Can ONESIDE™ be installed in slotted holes?

ONESIDE™ can be used in slotted hole installations in the outer bracket or end plate, this application is dependent on the design method and the forces in the direction of the slot, for this application it is imperative that design methods are checked by a certified structural engineer. Slotted holes cannot be in the hollow section. The slotted hole must confirm to width as stipulated by AJAX ENGINEERING.



Can ONESIDE™ bolts be sealed to prevent water ingress?

ONESIDE™ was designed for structural members; all standard products are NOT suitable for water tight sealing. Special washers and sealants have been supplied on a limited number of applications to ensure water resistance. As yet it has not been tested for waterproof applications.

Which Design Method is to be used for ONESIDE™ bolts?

ONESIDE™ is a complete structural bolting system, standard engineering design methods and standard tables as with structural bolting can be used, provided the failure will not occur due to the deformation of the joining members. Two design methods can be selected "Snug Fit" S-Type, or "Friction" F-Type, either options can be used. Design Methods documents are available from AJAX, or accredited suppliers. All design connections should be certified by a qualified structural engineer, prior to installation and installed accordingly. **The design method chosen for the connection should not only incorporate the required clamping and structural forces but should also include the method and availability of specific equipment to achieve the required torque to achieve correct clamping forces.**

ONESIDE™ is capable of achieving clamping loads in excess of 147kN for standard M20 8.8 bolts. To achieve such clamping loads the installer may need to apply torques in excess of 450Nm. Careful consideration needs to be taken into account in unusual access applications.

For specialised higher grade applications larger clamping forces can be achieved, with larger torques.



How many ONESIDE™ bolts are required for my connection?

ONESIDE™ bolting positioning and number will be determined by a certified structural engineer. As clamping loads achievable are at least **3 times greater** than other products in the market place, it is possible to have a lesser number of **ONESIDE™** bolts in the same joint, due to the superior clamping.

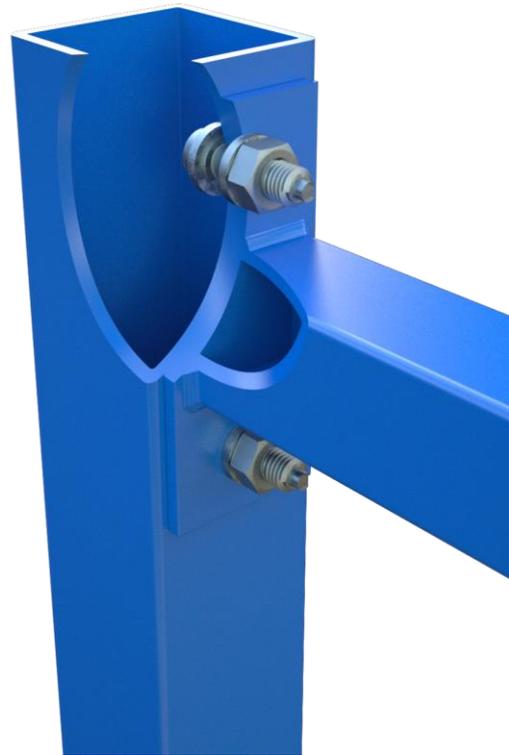
Are ONESIDE™ bolts available in other diameters than 16/M20/M24?

ONESIDE™ is a structural product, they are not available in sizes smaller than M16, but they are available in larger diameters than M24, under a special made to order basis. Normally this is not required as it is easier to install more bolts into the connection to achieve the desired structural integrity.

Are ONESIDE™ replacement components available?

AJAX Fasteners offer replacement components for all **ONESIDE™** product supplied through their dealer networks:

- Split washers
- Solid washers
- Nuts
- Tool tips
- Spring washers
- DTI squirt washers, where required
- High Strength Shear sleeve



ONESIDE™ literature shows the use of High Strength Sleeve's, is this necessary?

ONESIDE™ bolting is standard without the need for the high strength sleeve, this is optional. Dependant of the design shear forces and number of bolts being used. Please consult design data as to the shear capacity of the product to be used.

ONESIDE™ high strength shear sleeve is available from your authorised AJAX distributor.

Can ONESIDE™ bolts be used for 360° installations?

ONESIDE™ bolting is primarily for horizontal installations but can also be used for installation in 360° applications. Overhead bolting requires a skilled installer with experience, to make the process efficient.

Can **ONESIDE™** bolting be used in Dynamic high frequency large loading applications? Or Applications subject to large temperature fluctuation?

ONESIDE™ bolts in blind structural engineering applications where dynamic loading is applied on the nut/bolt connections. This includes **High frequency dynamic loading** such as experienced in the railway industry, where vibration and cyclic loading is critical. Or in applications cyclic bolt expansion due to large temperature variations is of concern.

Blind bolting concepts dependent on sleeve deformation and/or friction are not suitable for Dynamic load applications due to slip occurs at lower loads.

ONESIDE™ can be supplied with anti-vibrational devices to ensure loosening of the connection does not occur. In such cases **AJAX ONESIDE™** can be installed using the following options:

- **ONESIDE™** single helix spring washers
- **ONESIDE™** double helix spring washers
- **ONESIDE™** Structural nyloc nuts
- **ONESIDE™** Coneloc structural nuts

Products can be supplied as additional from **AJAX FASTENERS** or from an authorised **ONESIDE™** dealer.

Does **ONESIDE™** have any limitations?

The limitation when using **ONESIDE™** is that the bolt requires a minimum cavity space to allow the washer to open up. Tight radius curves in poles may also present an issue as the washer may not be able to seat properly. **ONESIDE™** requires a larger pre-drilled hole diameter with relation to the bolt diameter and a slightly longer bolt length.

Data Sheets describing minimum cavity spaces required for installation are available from **AJAX ENGINEERING Department or authorised agent / distributor**



Can **ONESIDE™** be retro-fitted with the anti-vibration devices and shear sleeves once installed?

ONESIDE™ high strength shear sleeve
ONESIDE™ single helix spring washers
ONESIDE™ double helix spring washers
ONESIDE™ Structural nyloc nuts
ONESIDE™ Coneloc structural nuts
DTI squirt washers

Can all be retro-fitted were requirements have changed (i.e. Shear requirements / temperature or Dynamic load) has changed from initial installation. As long as the bolt length has suitable length to allow for the additional components.

AJAX Engineering Department or authorised dealer should be consulted when undertaking such alterations for correct procedures.

Does **ONESIDE™** have alternative surface finishes?

ONESIDE™ blind bolting system comes as standard in hot dipped galvanised components. A range of other surfaces finishes are available for special manufacture orders.

AJAX fasteners can also offer high specification architectural surfaces finishes, for decorative applications.

All technical information provided regarding **AJAX ONESIDE™ must be approved in writing by the engineering department of **AJAX Fasteners Australia****
Email: engineering@ajaxfast.com.au