

## Reduced Duct Leakage and Fan Energy

An important benefit of this new system is that Duct Leakage is potentially also minimized. This can be accomplished with the use of a **35mm Pressure Memory Gasket** (a neoprene-based closed-cell rubber gasket which exhibits "pressure memory" by moving with the duct in service over the daily energise/de-energise cycle).

This gasket is laid right across the tear-drop shaped bolt holes at each corner and the unique **QuikBolt** point then pierces the gasket, but only to the extent that it runs tightly through the gasket and the bolt hole. This helps to maximize duct air tightness.

It is also worth noting that one of the drivers for the use of this new **QuikCorner/QuikBolt** system is to assure that all four corners are firmly joined. This may help to solve any issues where a corner may be difficult to bolt together with a traditional corner due to access constraints.



Contractors who have begun to standardise use of the **QuikCorner** system have reported excellent results in terms of leakage, fan energy and ease of installation.



**PATENTED**



**SAFER**  
**QuikBolt** enables three points of physical contact during installation.



**BETTER LEAK RESISTANCE**  
35mm wide gasket reduces leakage:-  
enables more accurate location along flange.  
- **QuikBolt** can pierce gasket at bolt hole.



**EASIER**  
To use  
-simply screw the **QuikBolt**  
**ONE STEP, NO NUTS! NO NEED FOR PODGER.**



**STRONG**  
Tests to destruction on 0.6 and 1.2mm ducting conclude that failure is well above any load normally encountered by ducting.  
(ie: above 1.7T load at failure)



**SIMPLER**  
**QuikBolt** Can be Installed Single Handed.

sales@ductware.com.au  
1300 ductware  
VIC/TAS NSW QLD  
SA NT WA NZ

## QuikCorner™ SYSTEM

pat. No. 2015101243

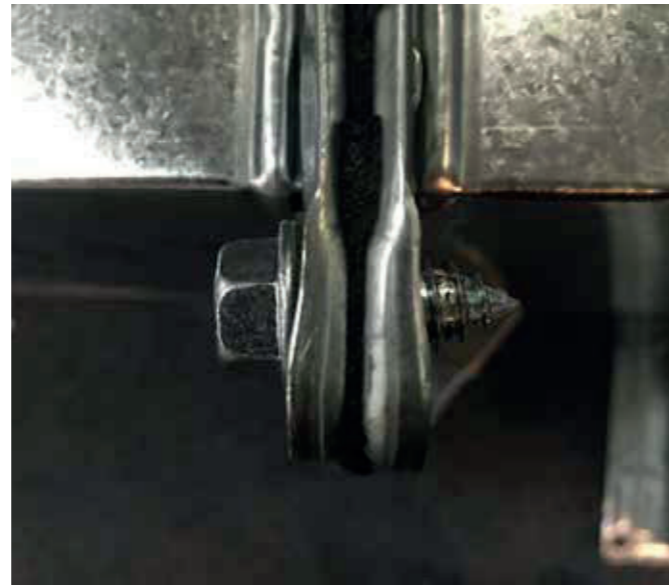
### QuikCorner / QuikBolt

- a new innovation from Ductware.

Ductware have had a full Structural Engineering assessment conducted on the new **QuikCorner / QuikBolt** system.

This new, simple, patented system, incorporating the **QuikBolt** bolt has a number of key benefits:

- Lower-leakage,
- Faster & Simpler Installation,
- Safer, plus
- Strength performance,



#### Structural Assessment

Based on an appraisal of the technical data presented and two pull apart tests on 0.6mm sheet metal and 1.2mm sheet metal duct.

**JMP Specialist Structural Engineers** concluded the following:

- The **QuikBolt** fastener has equivalent tensile strength to that of an M6 bolt fastener, when used for jointing rigid metal ductwork.
- The failure mode of rolled-on flange joints in 0.6mm thickness ductwork acting in tension is predominantly via distortion of the flange and **QuikCorner** reinforcing plate that eventually pull apart.
- The connecting fastener is much stronger than either the **QuikCorner** steel corner plate or the machine rolled flange of the duct and is therefore not overloaded.
- For thick wall duct of 1.2mm sheet metal thickness, the failure mode of the joint is a combination of flange and corner plate distortion and fastener pullout. However, the failure load is in excess of **5** times that which the duct joint is loaded under normal mandatory compliant conditions under **AS4254.2**.
- The **QuikCorner & QuikBolt** components have been seen to perform in a manner equivalent to that of conventional bolted reinforced plate corners of rigid metal ductwork joint in accordance with AS4254.2-2012.

#### Structural Tests

Photos at right taken during the testing.

The first test conducted with the TDF cleats fitted and was stopped at a pull force of **1.8 Tonnes** with minimal deformation of either the TDF flanges or the **QuikCorners**.

The second test was conducted with the TDF cleats removed. On this test the duct connection failed at a pull force of approximately **1.7-1.8 Tonnes**.

No shearing of the screw thread was evident.



#### Conclusions

The engineering conclusion was that ... "had conventional bolted corner brackets been used in lieu of the **QuikCorner** brackets then the joint would have still failed at approximately the same pull force".

In terms of the practical relevance of this test to site installations, the **QuikCorner** system was found to meet the structural requirements of AS4254.2-2012.

Accordingly, the system also meets **SMACNA** guidelines for structural integrity.

**SMACNA** have in fact specifically indicated they are "comfortable with the use of this system for the fabrication/installation of rectangular ductwork for commercial applications".

