

Maxis™ Hot-Dip Galvanised Joint Design Document



Figure 1 - Maxis™ Hot-Dip Galvanised Joint



Figure 2 - Maxis™ Hot-Dip Galvanised Joint

DEVELOPMENT

Computer flow simulation is used in the design of the methoding, to significantly reduce the potential of casting defects.

MATERIAL

The Maxis™ is an investment cast AISI 1045 Steel / EN-GJS-500-7 Ductile Iron.

COATING

Hot-dip galvanised.

QUALITY

All components are visually inspected for defects and percentage Magnetic Particle Inspected for non-visible cracks. All components are inspected for dimensional compliance with the use of precision gauges.

Material testing is performed to ensure adherence to chemical and mechanical property requirements, and every component can be traced back to the batch in which it was cast via batch numbers cast into each part.

Prior to delivery random inspection is performed at the manufacturing plant by a trained third-party inspector, to ensure compliance to visual, dimensional, chemical, and mechanical specifications. flow simulation is used in the design of the methoding, to significantly reduce the potential of casting defects.

SAFETY PIN WITH LANYARD (figure 3)

Hot-dip galvanised pin with 316 stainless steel wire lanyard and nickel plated copper crimp.
Load tested in excess of 30kg.



Figure 3

BOLTS (figure 4)

M12 x 19mm (3/4") head, grade 8.8, hot-dip galvanised.

Torqueing of bolts

In field use of Maxis™ joint - Recommended torque setting 65Nm [48ft-lb] to 70Nm [55ft-lb].
Torque testing carried out on the Maxis™ joint in excess of 110Nm [81ft-lb] (tension wrench capacity 110Nm) testing continued until bolt failure with no ill-effect to the joint.



Figure 4

WASHERS (figure 5)

M12 hot-dip galvanised spring washer.



Figure 5

GRUB SCREWS (figure 6)

M10 knurled point, grade 8.8 zinc flake (Zn/Al) coated with zinc-rich cold galvanising (cold galv) topcoat and thread lock patch.

Knurled point bites into the opposing metal, ensuring non-slip, non-loosening contact and effective bonding of the metals. The zinc flake with cold galv finish offers improved corrosion resistance. Thread lock patch provides a non-loosening, vibration-resistant solution.

Torqueing of grub screws

In field use of Maxis™ joint – recommended torque setting: 30Nm [22ft-lb] to 34Nm [25ft-lb].



Figure 6

SEAL (figure 7 and 8)

The seal prevents water ingress.

The seal is made of EPDM (Ethylene Propylene Diene Monomer), has a high UV rating, and has been used globally for many years in extreme conditions in variety of applications.



Figure 7



Figure 8

GREASE & ELECTRICAL CONTINUITY (figure 9)

The Maxis™ joint is delivered assembled and is greased internally using a premium heavy duty grease.

The longevity of the grease has been proven to last for almost two decades on the Safe Swivel™ joint. The design of the Maxis™ joint protects the grease more effectively than the Safe Swivel™ joint.

Electrical continuity

The Maxis™ joint has been tested and approved for electrical continuity in conjunction with the grease.



Figure 9