

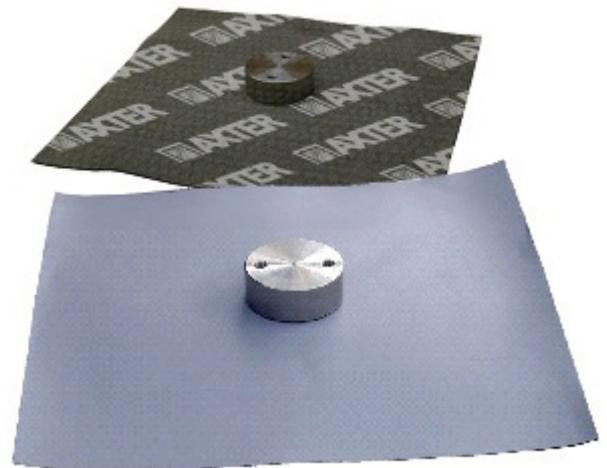
Technical Data Sheet

UFP - UNIVERSAL FIXING POINT

Low profile waterproof roof anchor point providing support and wind uplift resistance.

The Universal Fixing Point (UFP) is designed to provide a means of mechanically fixing roof top plant, access equipment, solar panels, balustrade connections, cable trays, unistrut framing, ladder supports, signage and air conditioning supports securely to the roof structure without compromising waterproofing integrity.

UFPs are supplied pre-fitted with Axter's bitumen or PVC-p waterproofing membranes to enable full integration with the specified roof waterproofing system without compromising its guarantee or performance.



Applications

The UFP is designed to be used on both retrofit and new build applications and can be installed in a horizontal or vertical plain. The units are supplied with either a 500 x 500 mm SBS bitumen membrane flange or a 500mm x 500mm PVC-p flange (both types are suitable for new build and retrofit applications).

The UFP comprises two M10 x 20 female threaded anchor points for supporting and securing most types of rails and bars (2 no. M10 x 20 hex bolts and washers are provided). Multiple fixings can be made directly to the roofing structure providing excellent pull-out values into the majority of substrates.

The multi-holed fixing plate and fixings are sealed under the waterproofing flange to eliminate potential water ingress.

Key benefits

Fast installation

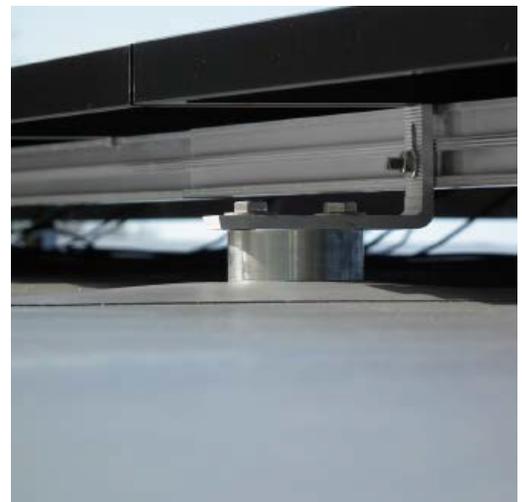
Compatible with bitumen and PVC-p roof waterproofing systems

Fully weatherproof, all fixings are below the membrane

Universal application

Low profile – less than 45mm from roof

No requirement for direct connection into rafters or purlins



Design

The unit is supplied complete with fixing point, flange and fixing plate.

The **500mm x 500mm flange** fitted to the Universal Fixing Point is manufactured in Axter's bitumen underlayer or single-ply PVC-p membrane, to be compatible with or the same as the specified roof waterproofing system upon which the unit is being fitted.

Fixing Point – a **76mm Ø stainless steel support with 2 no. female M10 x 20mm anchoring points (2 no. M10 x 20 hex bolts and washers provided).**

Fixing plate 300mm x 300mm – the coated steel fixing plate provides for multiple fixings which are covered by the flange material and sealed by the waterproofing system. 7mm and 17mm Ø holes are available for direct and thermally broken fixing types. The use of multiple fixings often avoids the need to locate the unit directly over a joist or purlin, allowing greater flexibility in siting and layout.



The membrane flange becomes the washer creating the seal; therefore there is no gasket, glue or sealant and the seal is guaranteed for a minimum period of 15 years and will last as long as the waterproof membrane which in the case of bitumen membranes is in excess of 50 years. The UFP has been tested to air pressures of 2 bar with zero drop. All forces applied to the fixing point are transferred directly to the fixing plate without affecting the membrane flange resulting in zero risk of tear or fracture of the waterproofing.

This design is protected patent pending. Any infringement will be addressed in the strongest manner appropriate.

Design considerations

Quantity – the number of UFPs required for a particular application will be affected by various factors, some of which are outlined below:

Loading – the UFPs will support varying downward loads depending on the substrate. For warm roof constructions the insulation manufacturer's static load rating may affect the load bearing capacity of the unit. Consult Axter Ltd for further information.

Uplift – the units depend on the type and number of fixings used to secure them in position. On a profiled deck the number of fixings may be reduced. It is recommended that the pull-out values are tested on site for accuracy.

Supporting rails – where these are fixed to the UFP, consideration must be given to the strength of the rails and the centres at which they require support.

Location – geographical location, height and other physical considerations must be allowed for when incorporating a UFP in to a design.

Number required – a minimum number of two UFPs must be used for all applications.

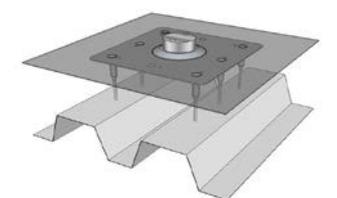
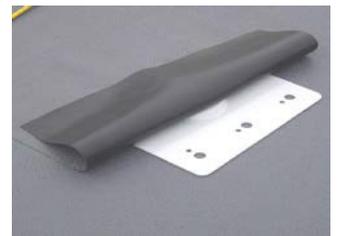
Installation

The Universal Fixing Point can be fitted to warm roof constructions with either bitumen membranes (in new build or retrofit situations) or single ply PVC membranes (retrofit only). Where used with the single ply waterproofing it is important that the unit is fitted with the same membrane as that used on the main roof to ensure full compatibility.

The unit is generally fixed through the completed roof and insulation into the roof deck using either the 7mm Ø holes for direct fixings or the 17mm Ø holes for thermally broken type fixings. It is recommended that as many as possible of the new fixing holes are used to achieve maximum uplift values.

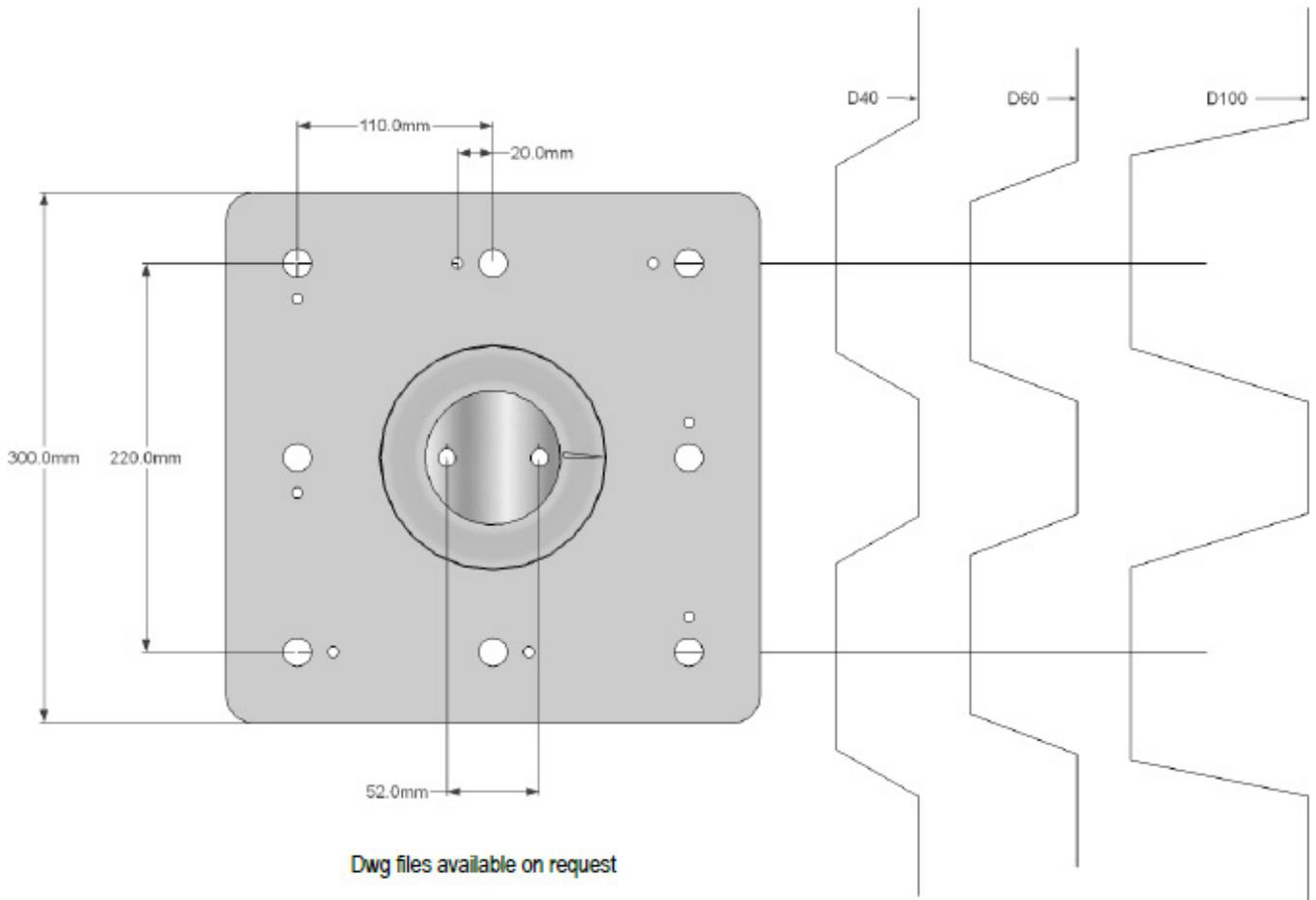
The UFP can often be positioned without reference to structural supporting joists or purlins within the roof.

- the UFP for SBS bitumen roofs is supplied with a torch on underlayer membrane and is designed to be fitted between insulation and waterproofing.
- the UFP for single ply roofs is supplied with a PVC membrane and is designed to be fitted over the completed waterproofing capsheet.
- prior to installation the UFP should be checked for defects, especially to the membrane. If a unit is damaged it must not be installed and Axter Ltd should be contacted for advice.
- If it has been decided that for loading purposes the UFPs must be located over rafters or purlins, these should be located and the UFPs set out accordingly.
- The UFPs should also be positioned taking into account the constraints of any framing system that will be fitted to them. Take care with the orientation of the two fixing points as these cannot be adjusted after installation.
- Warm roof constructions – ensure that fixings are of sufficient length to penetrate the insulation and the roof deck, in accordance with the fixing manufacturer's instructions. Use as many points as possible to achieve maximum pull-out value.
- Metal roof decks – for profiled metal decks, the fixings must go into the crown of the profile only. A maximum of six fixings can be used (see diagram).



- Waterproofing – the flange of the UFP should be sealed to the roof deck in accordance with
- Axter recommendations for lap joints.
- Once installed the UFP can pose a trip hazard. Display the warning sign supplied and implement all regulations applicable to working at height and on roofs in general.

Technical Data



Static loadings in Kg					
Insulation manufacturers longterm static load ratings*	20Kpa	30Kpa	40Kpa	50Kpa	60Kpa
UFP loading capacity per post in kg	125kg	187kg	250kg	312kg	375kg
Typical Uplift Values in kN**	No. of fixings per unit (safety factor of 3)				
Substrate type	Thickness	kN per fixing	4no fixings	6no fixings	8no fixings
Steel decking	0.7mm	1.6	2.1kN	3.2kN	4.2kN
	0.9mm	2.2	2.9kN	4.4kN	5.0kN
	1.2mm	2.7	3.6kN	5.0kN	5.0kN
	1.6mm	4.0	5.0kN	5.0kN	5.0kN
Plywood	18mm	2.2	2.9kN	4.4kN	5.0kN
OSB	18mm	2.2	2.9kN	4.4kN	5.0kN
Softwood boarding	25mm	3.4	4.5kN	5.0kN	5.0kN
Softwood joist	35mm embedment	4.1	5.0kN	5.0kN	5.0kN
Concrete	25mm embedment	4.1	5.0kN	5.0kN	5.0kN
Unit weight (approx)	Fitted with 1.5mm single ply 3.4 kg		Fitted with SBS torch on membrane 3.65kg		
*Consult Axter for static load rating					
**Based on the Axter C fixing. The above values are typical test results and do not include safety factors. They are intended as a guide only. On-site pull-out tests should be carried out to determine the actual uplift values.					

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