Responsive AquaFast
Couplings & Flange Adaptors
For Polyethylene & PVC Connections

NOW AVAILABLE
355 TO 450 DIAMETER
EASIER FITTING ON OVAL OR COILED PIPIES
NOW AVAILABLE IN 280MM DIAMETER
AquaFast Couplings & Flange Adaptors 63mm to 315mm

Overview

Designed & Engineered to Simplify Polyethylene & PVC Pipe Connections

Effortless Installation
AquaFast’s unique pressure sealing system offers a simple and reliable solution for connecting Polyethylene & PVC pipe. With a visual indicator confirming correct fitment and no special skills or tools required, installing AquaFast is effortless and quicker than other systems. In addition, an enhanced gripping mechanism ensures fittings slide easily into position during installation and provide full end load restraint in service negating the need for thrust blocks to prevent pipe pull out.

On-the-spot Repairs
From start to finish, AquaFast offers benefits to the installer. Supplied fully assembled and with an improved design that delays gripper engagement, AquaFast slides effortlessly over coiled and oval pipe making it easy for installers to correctly position the product in narrow trench conditions. Needing no specialist equipment, simply a “rag and a spanner”, AquaFast can be installed in all-weather conditions and this, coupled with a design that does not need a support liner, means the product is ideal for on-the-spot connections in both new lay and repair / maintenance work.

Simple Jointing
Using only a standard spanner to tighten fewer bolts (only two per fitting up to 125mm) until the visual indicator confirms correct fitment AquaFast provides operatives with simple means of joining PE pipes. The metal-to-metal positive stop indicating mobilisation of the gripper and gasket sealing mechanisms removes the need for a torque wrench and prevents over tightening of the bolts while ensuring optimum assembly to every time.

Transitional Connections
AquaFast couplings & flange adaptors are available from 63mm to 315mm OD. Designed to work on both Polyethylene pipe in both PE80 and PE100 material SDR 11, 17/17.6 without a support liner, they can also be used to connect metric PVC pipe, so AquaFast is ideal for PE/PVC transitional connections.

Pipe Materials

Note: All water contact materials approved for use with potable water by WRAS.
AquaFast Couplings & Flange Adaptors 63mm to 315mm

Product Design Benefits

Simple to Install
- Captive, non-rotating bolts across whole range requiring a single spanner to install.
- Increased bore dimensions and inclusion of resistors to prevent early engagement of gripper ensures AquaFast slides easily over pipe.

Positive Stop
- Correct installation confirmed through visual indication with metal to metal contact between three components (end ring, intermediate ring and sleeve / flange adaptor body).

Efficient Gasket Sealing Technology
- Double ‘O’ ring gasket provides localised high pressure contact points generating efficient seal on pipe surface.
- EPDM (water quality approved) gaskets.

Flexible Flange Drilling
- As standard the flange adaptors are multi drilled to accommodate BS EN 1092-1 PN10 & 16.

Corrosion Protection
- Metal components are coated with Rilsan Nylon 11, which is WRAS approved for use with potable water, and offers long term corrosion protection impact abrasion resistance.
- The nuts & bolts are Sheraplex coated to WIS 4-52-03, which does not gall when re-used and provides long term corrosion protection.

Unique Progressive Sealing and Gripping Mechanism
- Patented gasket and gripper design delivers low pressure / load to outside of pipe at initial bolt up eliminating the need for support liner.
- Water transfer path uses internal pressure to increase gasket compression at contact points.
- As system pressure increases the initial gripper engagement with the pipe is enhanced through progressive gripping.

Customer Benefits
- Ideal for pumped sewage line as no support liner is required meaning a clear unrestricted bore. Additionally, Rilsan abrasion resistance coating accommodates any solids any solids in sewage.
- 50 years design life expectancy is assured through “Accelerated Aging Testing” that simulates lifecycle of the product and Rilsan Nylon coating to metal works for corrosion protections as well as Sheraplex coated bolts to WIS 4-52-03.
- Rough on site handling accommodated by Rilsan coating.
- Simple onsite installation as the product comes pre-assembled hence easily slides over the round pipe. The resistor ensures gripper remains fully contained in housing until bolt up is complete.
- Reduced number of bolts ensures the product can be always orientated to facilitate easy access for bolt up.
- Minimal damage to pipe as progressive gripping system only penetrates sufficiently to mobilise and load forces from internal pressure and other loads in PE Pipe.
- All water contact materials approved for use with potable water (WRAS).
- Fully restrained fitting, designed to meet the performance requirements of WIS4-24-01 Type 2 and ISO17885.
AquaFast Large Diameter Couplings & Flange Adaptors 355mm to 450mm

Overview

Designed for simplified & dependable trench installation every time.

Simple to Install
AquaFast Large Diameter is quick and easy to install providing an alternative solution to electrofusion and butt fusion for all weather and trench conditions. It is a simple fit and forget installation designed with the minimum number of bolts and without the need for an internal liner or expensive trench equipment.

Quality
Patents are pending on this innovative product designed and manufactured under quality systems to BS EN ISO 9001 and the requirements of UK & European Water Regulations.

Reduced Stock Holding
And now just 10 sizes will cover a range of multiple SDR’s offering a significant reduction in traditional stockholding and allowing distributors and water utilities opportunity to have stock to cover all eventualities with off-the-shelf availability.

Innovative Design ideal for Oval Pipes
Helden has built in a high tolerance for AquaFast to fit with oval pipes and negating the need to utilise expensive and time consuming re-rounding tools.

Fully Corrosion Protected
WRAS approved black Rilsan Nylon 11 coating provides excellent corrosion and damage resistance to impact, abrasion, weathering and chemicals.

Resists Pull-out
Improved gripping mechanism offers end load restraint, resisting pipe pull out, allowing the coupling and flange adaptor to be suitable for use in climatic regions where temperatures range from -20°C up to 60°C. AquaFast has been designed to meet the performance requirements of BS EN 12842, WIS 4-24-01 Type 2 and ISO 17855 (supersedes ISO 14236.2)

Pipe Material

Helden AquaFast

Telephone: +44 (0)1462 443322
AquaFast Large Diameter Couplings & Flange Adaptors 355mm to 450mm

Product Design Benefits

**Innovative Gripping**

An enhanced gripping mechanism offers Type 2 end load restraint, resisting pipe pull out.

**Corrosion Protection**

All cast components are fully coated in Black Rilsan Nylon 11 which has excellent resistance to impact, abrasion, weathering and chemicals as well as good thermal stability and flexibility to accommodate for rough site handling.

**Positive Stop**

Correct installation confirmed through visual indication with metal to metal contact between the clamp bands.

**Centralisation Feature**

Centralisation bolts are available around the product allowing accurate fitment during installation.

**Customer Benefits**

- Coupling can be used for repair - no internal restriction ideal for Sewage applications.
- Suitable for connecting pipes in wet/submerged conditions and above ground applications.
- No requirement for a support liner, torque wrench or any other specialist equipment on site.
- Easy to centralise on the pipe.
- Reduced stockholding - One product can connect one nominal pipe size with common SDRs (11, 17/17.6 and 21).
- 50 years design life expectancy.
- Reusability - No spares required for multiple installations.
- Saves time and effort as Contractor only has to identify PE pipe nominal size to select correct fitting.
- Fittings comes fully assembled.
- Minimal number of bolts to tighten.
AquaFast Couplings 63mm to 315mm

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Coupling

![Coupling Diagram]

AquaFast Couplings

<table>
<thead>
<tr>
<th>Pipe OD</th>
<th>Bolt Size No.-Dia x Length</th>
<th>Dimensions (mm)</th>
<th>Setting Gap (mm)</th>
<th>Max Gap (mm)</th>
<th>Weight (kg)</th>
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</thead>
<tbody>
<tr>
<td>63</td>
<td>2-M12 x 250</td>
<td>257</td>
<td>20</td>
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<td>2-M12 x 250</td>
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<td>140</td>
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<td>200</td>
<td>4-M12 x 375</td>
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<tr>
<td>225</td>
<td>4-M16 x 385</td>
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<td>30</td>
<td>50</td>
<td>24.8</td>
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<td>250</td>
<td>6-M16 x 385</td>
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<td>6-M16 x 385</td>
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<td>6-M16 x 385</td>
<td>395</td>
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<td>50</td>
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</tbody>
</table>

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## Technical Information

### Working Pressure Rating
- Water: 16 bar
- Gas: not approved

### Vacuum Pressure
Capable of accommodating a vacuum pressure of -0.7 bar

### Site Test Pressure
1.5 times working pressure for short duration (2 hours)

### Pipe Material / Support Liner
When used on the following pipe materials AquaFast does not need a support liner:
- MDPE (PE80) and HPPE (PE100) in SDR ratings 11 & 17
- MOPVC (16 bar rated pipe)

### Angularity
Couplings 1.5°

### Bolt Torque/Spanner
Torque; None, simply tighten until correct installation confirmed through visual indication with metal to metal contact between three components (end ring, intermediate ring and sleeve).

### Temperature Rating of Product
EPDM -20°C to +40°C
AquaFast is not suitable for use on heating systems with fluctuating temperatures.

### End Load Due to Internal Pressure
AquaFast Fully restrained fitting, designed to meet the performance requirements of WIS4-24-01 Type 2 and ISO17885.

### Approvals
The following water contact materials used in AquaFast are approved for use with potable water:
- **Rilsan Nylon 11:** WRAS, AS/NZS 4020, DVGW, W270, ACS & KIWA
- **EPDM Gaskets:** WRAS, AS/NZS 4020

In addition to the above, AquaFast as a finished product has KIWA certification verifying that the above products comply with the requirements of the Water Supply (Water Fittings) Regulations for England and Wales 1999, the Water Byelaws 2000, Scotland and the Water Regulations Northern Ireland.

### Materials & Relevant Standards

#### Centre Sleeve, End Ring & Flange Adaptor Body
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

#### Gripper Ring
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

#### Intermediate Ring
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

#### Gasket (EPDM)
BS EN 681-1 Type WA/BS 6920 hardness to 70 IRHD

#### Resisters
Free cutting Mild Steel (Grade Y15) Zn³ Zinc coated

#### Bolts
BS EN ISO 898-1 Property class 8.8
- Option - Stainless Steel BS EN ISO3506-2 Grade A4 Property Class 80
  (Stainless steel available as special order)

#### Washers
BS 1449:Part 2 Grade 304S15

#### Nuts
Steel to BS EN20898-2 Property Class 8
- Option - Stainless Steel BS EN ISO3506-2 Grade A4 Property Class 80
  (Stainless steel available as special order)

#### Washers
BS 1449:Part 2 Grade 304S15

#### Coatings
Centre Sleeve, End Ring, Flange Adaptor body & intermediate ring:
- **Rilsan Nylon 11**
- **Gripper:**
  - Cataphoretic coating
- **Bolts & Nuts:** Sheraplex to WIS 4-52-03

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### AquaFast Couplings

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Working Pressure (water bar)</th>
<th>Bolts size (dia x length)</th>
<th>Insertion Depth (mm)</th>
<th>Setting gap (based on nominal insertion depth)</th>
<th>Outer Dimensions (mm)</th>
<th>Weight (kg)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nom</td>
<td>Installed / Uninstalled</td>
<td>Clamp band outer diameter (A) / Length (L)</td>
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<tr>
<td>355</td>
<td>16</td>
<td>24-M16 x 120</td>
<td>241</td>
<td>540 / 571</td>
<td>692 / 213.3</td>
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<tr>
<td>400</td>
<td>16</td>
<td>24-M16 x 120</td>
<td>247</td>
<td>585 / 618</td>
<td>704 / 231.3</td>
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<tr>
<td>450</td>
<td>16</td>
<td>24-M16 x 120</td>
<td>255</td>
<td>635 / 670</td>
<td>720 / 253.3</td>
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</tbody>
</table>

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Technical Information

Working Pressure Rating
Water 16 bar
Gas not approved

Vacuum Pressure
Capable of accommodating a vacuum pressure of -0.7 bar

Site Test Pressure
1.5 times working pressure for short duration (2 hours)

Pipe Material / Support Liner
When used on the following pipe materials AquaFast does not need a support liner:
- MDPE (PE80) in SDR ratings 11 & 17/17.6
- HPPE (PE100) in SDR ratings 11, 17/17.6 & 21

Angularity (in accordance with BS EN 12842)
Couplings 1.0°

Bolt Torque/Spanner
Torque: None, simply tighten until correct installation confirmed
Correct installation confirmed through visual indication with metal to metal contact between the clamp bands.

Temperature Rating of Product
EPDM -20°C to +60°C
AquaFast is not suitable for use on heating systems with fluctuating temperatures.

End Load Due to Internal Pressure
AquaFast Fully restrained fitting, and has been designed to meet the performance requirements of BS EN 12842, WIS 4-24-01 Type 2 and ISO 17855 (supersedes ISO 14236.2).

Approvals
The following water contact materials used in AquaFast are approved for use with potable water:
- Rilsan Nylon 11:
  - WRAS, AS/NZS 4020, DVGW, W270, ACS & KIWA
- EPDM Gaskets:
  - WRAS, AS/NZS 4020

In addition to the above, AquaFast as a finished product has KIWA certification verifying that the above products comply with the requirements of the Water Supply (Water Fittings) Regulations for England and Wales 1999, the Water Byelaws 2000, Scotland and the Water Regulations Northern Ireland.

Materials & Relevant Standards

Flange Adaptor Body, Centre Sleeve, Clamp Bands & Gripper Ring
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

Gasket
EPDM Grade ‘E’ to BS EN 681-1:1996 Type WA WRAS listed

Coatings
Body, Sleeve, Intermediate Ring & End Ring
- Rilsan Nylon 11 to WIS 4-52-01 Part 1
Nuts and Bolts:
- Sheraplex coated to WIS 4-52-03
Gripper:
- Cataphoretic coating

Bolts
Standard - Stainless Steel BS EN ISO3506-1 Grade A2-70

Nuts
Standard - Stainless Steel BS EN ISO3506-2 Grade A4-80

Washers
Stainless Steel to BS1449: Part 2:1983 Grade 304S15

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AquaFast Flange Adaptors 63mm to 315mm

Datasheet

Flange Adaptor

AquaFast Flange Adaptors

<table>
<thead>
<tr>
<th>Pipe OD</th>
<th>Flange Drillings</th>
<th>Tee Bolt Size No.-Dia x Length</th>
<th>Dimensions (mm)</th>
<th>Bore C (mm)</th>
<th>Flange Thickness D (mm)</th>
<th>Setting Gap (mm)</th>
<th>Max Gap (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>50/65 PN10,16</td>
<td>2-M12 x 135</td>
<td>144</td>
<td>50</td>
<td>17</td>
<td>20</td>
<td>25</td>
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<tr>
<td>75</td>
<td>65/80 PN10,16</td>
<td>2-M12 x 135</td>
<td>144</td>
<td>65</td>
<td>17</td>
<td>20</td>
<td>25</td>
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<tr>
<td>75</td>
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<td>17</td>
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<td>25</td>
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<tr>
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<td>80</td>
<td>17</td>
<td>20</td>
<td>25</td>
<td>5.0</td>
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<tr>
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<td>100 PN10,16</td>
<td>2-M12 x 135</td>
<td>144</td>
<td>100</td>
<td>17</td>
<td>20</td>
<td>25</td>
<td>6.1</td>
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<td>100</td>
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<td>25</td>
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<tr>
<td>140</td>
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<td>25</td>
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<tr>
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<td>150</td>
<td>17</td>
<td>20</td>
<td>25</td>
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<tr>
<td>180</td>
<td>150 PN10,16</td>
<td>4-M12 x 190</td>
<td>199</td>
<td>150</td>
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<td>25</td>
<td>35</td>
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All flanges drilled to BS EN 1092-1 (formerly BS 4504)/BS EN ISO 7005 PN10 and PN16

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AquaFast Flange Adaptors 63mm to 315mm

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Technical Information

Working Pressure Rating
Water 16 bar
Gas not approved

Vacuum Pressure
Capable of accommodating a vacuum pressure of -0.7 bar

Site Test Pressure
1.5 times working pressure for short duration (2 hours)

Pipe Material / Support Liner
When used on the following pipe materials AquaFast does not need a support liner:
➤ MDPE (PE80) and HPPE (PE100) in SDR ratings 11 & 17
➤ MOPVC (16 bar rated pipe)

Flange Drilling
All flange drilled to BS EN 1092-1 (formerly BS 4504) /BS EN ISO 7005 PN10 and PN16

Angularity (in accordance with BS EN 12842)
Flange Adaptors 1.5°

Bolt Torque/Spanner
Torque; None, simply tighten until correct installation confirmed through visual indication with metal to metal contact between three components (end ring, intermediate ring and adaptor body).

Temperature Rating of Product
EPDM -20°C to +40°C
AquaFast is not suitable for use on heating systems with fluctuating temperatures.

End Load Due to Internal Pressure
AquaFast Fully restrained fitting, designed to meet the performance requirements of WIS4-24-01 Type 2 and ISO17885.

Approvals
The following water contact materials used in AquaFast are approved for use with potable water:-
Rilsan Nylon 11:
➤ WRAS, AS/NZS 4020, DVGW, W270, ACS & KIWA
EPDM Gaskets:
➤ WRAS, AS/NZS 4020
In addition to the above, AquaFast as a finished product has KIWA certification verifying that the above products comply with the requirements of the Water Supply (Water Fittings) Regulations for England and Wales 1999, the Water Byelaws 2000, Scotland and the Water Regulations Northern Ireland.

Materials & Relevant Standards

Centre Sleeve, End Ring & Flange Adaptor Body
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

Gripper Ring
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

Intermediate Ring
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

Gasket (EPDM)
BS EN 681-1 Type WA/BS EN 6920 hardness to 70 IRHD

Resisters
Free cutting Mild Steel (Grade Y15) Zn³ Zinc coated

Bolts
BS EN ISO 898-1 Property class 8.8
Option - Stainless Steel BS EN ISO3506-1 Grade A2 Property Class 70
(Straightness steel available as special order)

Nuts
Steel to BS EN20898-2 Property Class 8
Option - Stainless Steel BS EN ISO3506-2 Grade A4 Property Class 80
(Straightness steel available as special order)

Washers
BS 1449:Part 2 Grade 304S15

Coatings
Centre Sleeve, End Ring, Flange Adaptor body & intermediate ring:
➤ Rilsan Nylon 11
Gripper:
➤ Cataphoretic coating
Bolts & Nuts:
➤ Sheraplex to WIS 4-52-03

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# AquaFast Large Diameter Flange Adaptors 355mm to 450mm

**Datasheet 1/2**

## Flange Adaptor

![Flange Adaptor Diagram]

### AquaFast Flange Adaptors

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Flange Drilling</th>
<th>Working Pressure (water) bar</th>
<th>bolts size</th>
<th>Insertion Depth (mm)</th>
<th>Setting gap (based on nominal insertion depth)</th>
<th>Clamp Band Outer Diameter (A)</th>
<th>Outer Dimensions (mm)</th>
<th>Weight (kg)</th>
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<tbody>
<tr>
<td>355</td>
<td>300 PN10,16</td>
<td>16</td>
<td>M16 x 120</td>
<td>Min 284, Nom 304, Max 324</td>
<td>197</td>
<td>540</td>
<td>571</td>
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<tr>
<td>355</td>
<td>350 PN10,16</td>
<td>16</td>
<td>M16 x 120</td>
<td>Min 284, Nom 304, Max 324</td>
<td>117</td>
<td>540</td>
<td>571</td>
<td>421</td>
</tr>
<tr>
<td>400</td>
<td>350 PN10,16</td>
<td>16</td>
<td>M16 x 120</td>
<td>Min 289, Nom 309, Max 329</td>
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**AquaFast Large Diameter Flange Adaptors 355mm to 450mm**

**Technical Information**

**Working Pressure Rating**
- Water: 16 bar
- Gas: not approved

**Vacuum Pressure**
Capable of accommodating a vacuum pressure of -0.7 bar

**Site Test Pressure**
1.5 times working pressure for short duration (2 hours)

**Pipe Material / Support Liner**
When used on the following pipe materials AquaFast does not need a support liner:
- MDPE (PE80) in SDR ratings 11 & 17/17.6
- HPPE (PE100) in SDR ratings 11, 17/17.6 & 21

**Angularity (in accordance with BS EN 12842)**
Flange Adaptors 1.0°

**Bolt Torque/Spanner**
Torque: None, simply tighten until correct installation confirmed
Correct installation confirmed through visual indication with metal to metal contact between the clamp bands.

**Temperature Rating of Product**
EPDM: -20°C to +60°C
AquaFast is not suitable for use on heating systems with fluctuating temperatures.

**End Load Due to Internal Pressure**
AquaFast Fully restrained fitting, and has been designed to meet the performance requirements of BS EN 12842, WIS 4-24-01 Type 2 and ISO 17855 (supersedes ISO 14236.2).

**Approvals**
The following water contact materials used in AquaFast are approved for use with potable water:
- Rilsan Nylon 11:
  - WRAS, AS/NZS 4020, DVGW, W270, ACS & KIWA
- EPDM Gaskets:
  - WRAS, AS/NZS 4020

In addition to the above, AquaFast as a finished product has KIWA certification verifying that the above products comply with the requirements of the Water Supply (Water Fittings) Regulations for England and Wales 1999, the Water Byelaws 2000, Scotland and the Water Regulations Northern Ireland.

**Materials & Relevant Standards**

**Flange Adaptor Body, Centre Sleeve, Clamp Bands & Gripper Ring**
Ductile iron to BS EN 1563 Symbol EN-GJS-450-10

**Gasket**
EPDM Grade ‘E’ to BS EN 681-1:1996 Type WA WRAS listed

**Coatings**
Body, Sleeve, Intermediate Ring & End Ring
- Rilsan Nylon 11 to WIS 4-52-01 Part 1
Nuts and Bolts:
- Sheraplex coated to WIS 4-52-03
Gripper:
- Cataphoretic coating

**Bolts**
Standard - Stainless Steel BS EN ISO3506-1 Grade A2-70

**Nuts**
Standard - Stainless Steel BS EN ISO3506-2 Grade A4-80

**Washers**
Stainless Steel to BS1449: Part 2:1983 Grade 304S15

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AquaFast Flange Adaptor

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- Environmental Management System accredited to ISO 14001.
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- We hope our communications have an impact on you - but not the environment - we have taken steps to ensure this brochure is printed on Forestry Stewardship Council material and the paper is made by a totally chlorine free process.