

## R10 RAINWATER DRAINAGE SYSTEMS

To be read with Preliminaries/General conditions.

### GENERAL INFORMATION/REQUIREMENTS

#### 110 GRAVITY RAINWATER DRAINAGE SYSTEM

- Rainwater outlets: Proprietary (see clause 365)
- Gutters: PVC-U (clause 350)
- Pipework: PVC-U (clause 420)
- Below ground drainage: N/A
- Disposal: N/A
- Controls: N/A
- Accessories: N/A

### SYSTEM PERFORMANCE

#### 210 DESIGN

- Design: Complete the design of the rainwater drainage system taking into consideration roof layout, gutter fall and number and position of outlets required to maximize flow.
- Standard: Calculate rainfall intensity, and effective roof area to be drained in accordance with guidance in BS EN 12056-3, clauses 3-7 and National

#### Annexes.

- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

#### 350 GUTTER SYSTEM:

- Manufacturer and reference: Specialist Building Products Ltd, all products to be Kayflow, equal or approved, in accordance with the following;
- British Standard Kitemark to BS EN 607:2004 / BS EN 12200-1:2000 / BS EN 1462:2004
- Manufacturer to hold ISO 9001 Quality Management System accreditation, ISO 14001 and ISO 18001 accreditation. Also to hold BES6001 approval – Very Good rating.
- 10 year\* colourfastness performance guarantee. [\* excludes Caramel]
- FOR REFURBISHMENT PROGRAMES, WHERE WHITE RAINWATER IS USED IN CONJUNCTION WITH WHITE FASCIA AND SOFFIT FROM THE SAME SYSTEMS MANUFACTURER AN EXTENDED COLOURFAST GUARANTEE CAN BE PROVIDED.
- Type: Half round, Square, Ogee, Deep and SuperDeep 170 – Gutter available in 4m and 5m lengths. Cast Effect available in Half round, Ogee and Deep.
- Colour: White, Black, Brown, Caramel and Grey. Cast Iron effect Black only.

- Fixing specification: Use all fixing positions on all brackets, unions, angles and outlets. Fix with minimum 2 x 25mm No. 10 s/s round heads. Maximum 1 metre centers [round, square, deep], 800mm [Ogee] and 600mm [SuperDeep 170].
- Accessories: a full range of injection moulded accessories is available to complete the system – including angles, stop ends, fascia bracket, running outlet, union bracket etc...
- See Kayflow Rainwater Range and Specification brochure – available at [www.kayflow.co.uk](http://www.kayflow.co.uk)
- Important Information: The potentially adverse effects on a poorly secured gutter system of high intensity rainfall and periods of standing snow, with prolonged freeze/thaw loading, highlight the importance of following the recommended fixing centres and gutter positioning advice.
- In locations where heavy snowfall is common, fixing centres for gutter brackets should be reduced to a minimum of 600mm. In addition all fixing holes should be used on all brackets and the use of snowboards is recommended where appropriate.

#### 420 PVC-U PIPEWORK - EXTERNAL

- Manufacturer and reference: all products to be manufactured by Specialist Building Products Ltd, all products to be Kayflow, equal or approved, in accordance with the following;
- British Standard Kitemark to BS EN 607:2004 / BS EN 12200-1:2000 / BS EN 1462:2004
- Manufacturer to hold ISO 9001 Quality Management System accreditation.

Also to hold BES6001 approval – Very Good rating.

- 10 year\* colourfastness performance guarantee. [\* excludes Caramel]
- FOR REFURBISHMENT PROGRAMES, WHERE WHITE RAINWATER IS USED IN CONJUNCTION WITH WHITE FASCIA AND SOFFIT FROM THE SAME SYSTEMS MANUFACTURER AN EXTENDED COLOURFAST GUARANTEE CAN BE PROVIDED.

### Specialist Building Products Limited

Pioneer House, Mariner, Lichfield Road Industrial Estate, Tamworth Staffordshire B79 7TF

t: 01827 317269 f: 01827 317217 t: [info@kayflow.co.uk](mailto:info@kayflow.co.uk)

[www.kayflow.co.uk](http://www.kayflow.co.uk)

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- Type: 65mm diameter Square and 68mm diameter Round Downpipes available in 2.5m, 4m & 5.5m lengths.
- Colour: White, Black, Brown, Caramel and Grey. Cast Iron effect Black only.
- Fixing specification: Use all fixing positions on brackets. Fix with suitable depth No. 10 s/s round head screws into wall plugs suitable for substrate. Maximum vertical distance between pipe brackets 1.8 m.
- Accessories: a range of injection moulded accessories should be available to complete the system – including angles, brackets, clips, shoes etc...
- See Kayflow Rainwater Range and Specification brochure – available at [www.kayflow.co.uk](http://www.kayflow.co.uk)

## 615 SETTING OUT EAVES GUTTERS – TO FALLS

- Setting out: To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50mm below the roof.
- Outlets: Align with connections to below ground drainage.

OR

## 616 SETTING OUT EAVES GUTTERS - LEVEL

- Setting out: Level and as close as practical to the roof.
- Outlets: Aligned with connections to below ground drainage. 635 FIXING PIPEWORK
- Pipework: Fix securely, plumb and/or true to line.
- Branches and low gradient sections: Fix with uniform and adequate falls into drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.

- Provide a load bearing support at least every storey level.
- Tighten fixings as work proceeds so that every storey is self-supporting.
- Wedge joints in unsealed metal pipes to prevent rattling
- Wall and floor penetrations: Isolate pipework from structure.

## 640 FIXING VERTICAL PIPEWORK

- Bracket fixings: 2 x 25mm No. 10 s/s round heads
- Distance between bracket fixing centres: 1.8 m (maximum)

## 650 JOINTING PIPEWORK AND GUTTERS

- General: Joint with materials and fittings that will make effective and durable connections. Where required, long swan necks or outlet fittings, it may be acceptable to add a small grubber screw in a limited visibility position to minimise slippage risk.
- Jointing differing pipe work and gutter systems: Use adaptors intended for the purpose however where such a product does not exist drill, screw and seal with suitable sealant being careful to maintain flow to outlet position.
- Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting them into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Strike off flush. Do not allow excess material to project into bore of pipes and fittings as this could lead to blockages.
- Surplus flux, solvent jointing materials and cement: Remove as appropriate.

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## HEALTH AND SAFETY

### Access systems

- Be aware of and ensure compliance with The Work at Height Regulations 2005.
- The work area must never be accessed using an unsupported ladder or other unsuitable access system. Always use a full scaffold platform, portable towers

systems or cantilevered deck systems with appropriate guard rails.

### SAFE USE OF PVC RAINWATER SYSTEMS:

- The European Chemicals Agency (ECHA) has published its Guidance for the implementation of the REACH directive (Registration, Evaluation, Authorisation and Restriction of Chemicals) and as a supplier of “articles” that do not contain Substances of Very High Concern (commonly known as the SVHC list) Specialist Building Products Ltd is not required to provide an MSDS (Material Safety Data Sheet) or COSHH data sheet (Control of Substances Hazardous to Health) for its Kayflow systems.
- As a responsible manufacturer we recognise that we owe a duty of care to our customers. Accordingly the following information has been produced for guidance on the safe use of Kayflow rainwater systems.

### Storage & Handling Measures

- Follow normal good safety practice when handling long, heavy goods. Loading and unloading should be carried out by hand. It is recommended that both ends of long profiles should be supported when handling.
- PVC rainwater profiles should be stacked in its protective sleeving on a flat, firm base with a stacking height not exceeding 1 metre.
- Storage in the open is not recommended unless additional protection is provided.
- PVC should be stored in dry conditions and kept far away from direct or indirect heat sources.

### Safety Measures

- PVC should be cut with the correct tools, never broken.
- Although not harmful, dust particles caused by cutting the product may cause physical irritation if they get into the eyes therefore eye protection should be worn when using power tools.
- Avoid inhaling dust if the product is cut and the use of protective dust masks is

advisable - filter type P2 is recommended. Dust should not be allowed to

accumulate and a high standard of housekeeping should be maintained.

- Ingestion is not recommended.

### Disposal & Release Measures

- Recover any dusts formed by vacuum or mechanical collection. Shovel into a suitable container for disposal. Sweep up to prevent a slipping hazard.
- Recycle any off-cuts if possible.
- Destroy the product by incineration (in accordance with local and national regulations)

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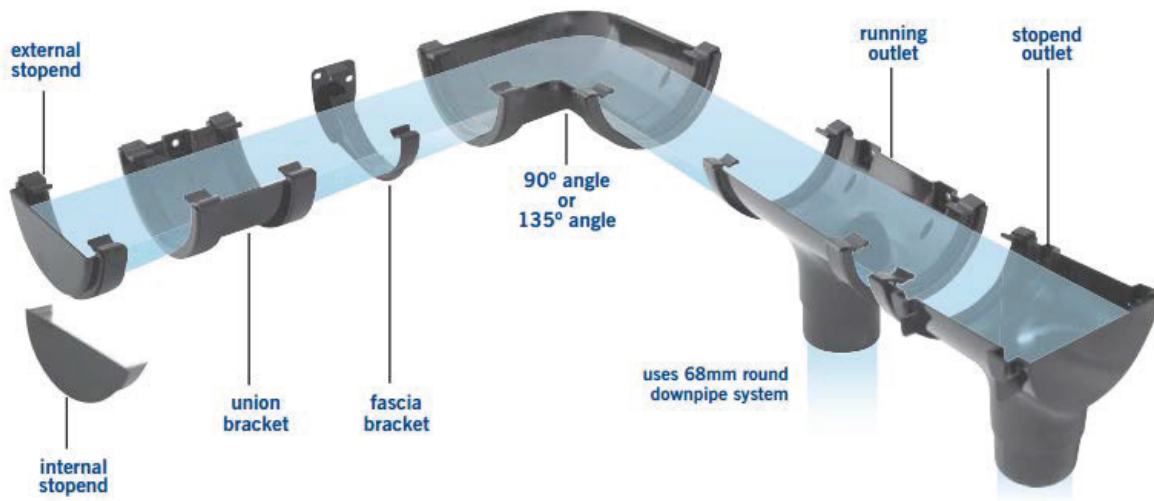
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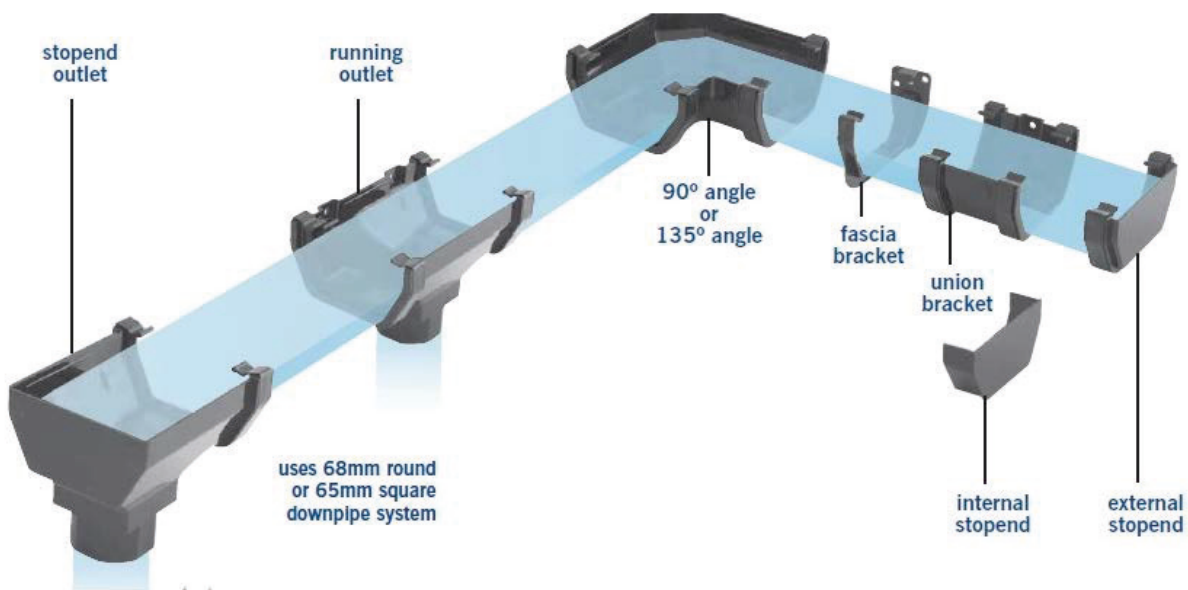
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## PROFILES AND MOULDED COMPONENTS;

### Half Round Gutter:



### Square Gutter:



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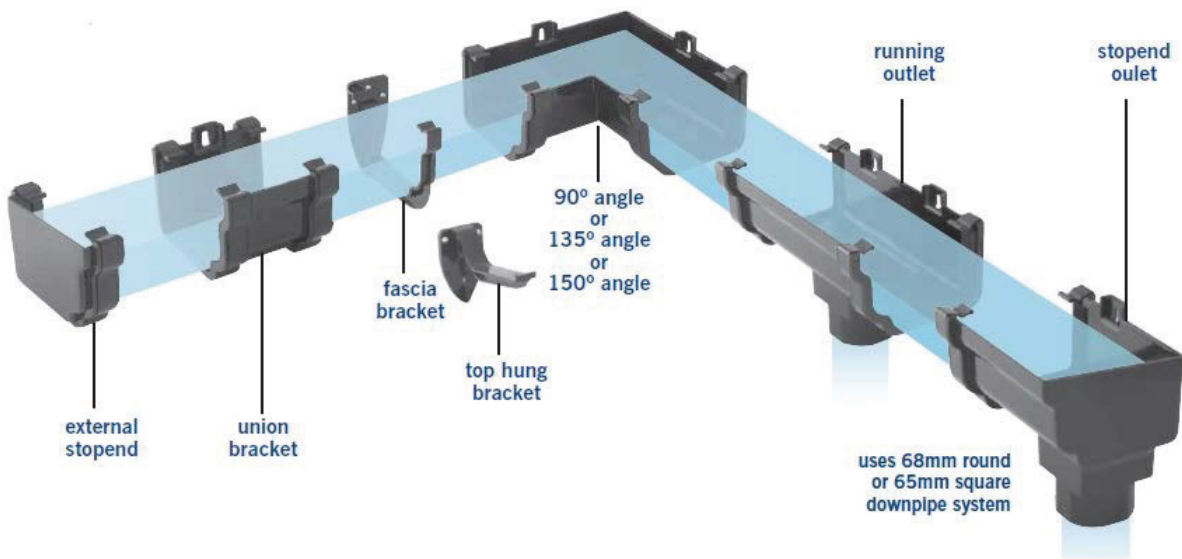
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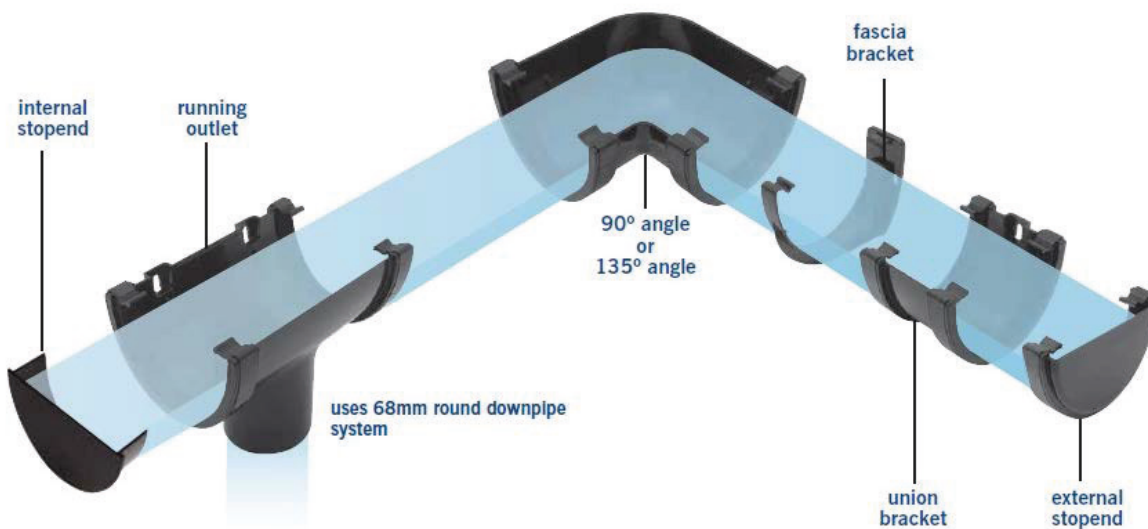
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## Ogee Gutter:



## Deep Gutter:



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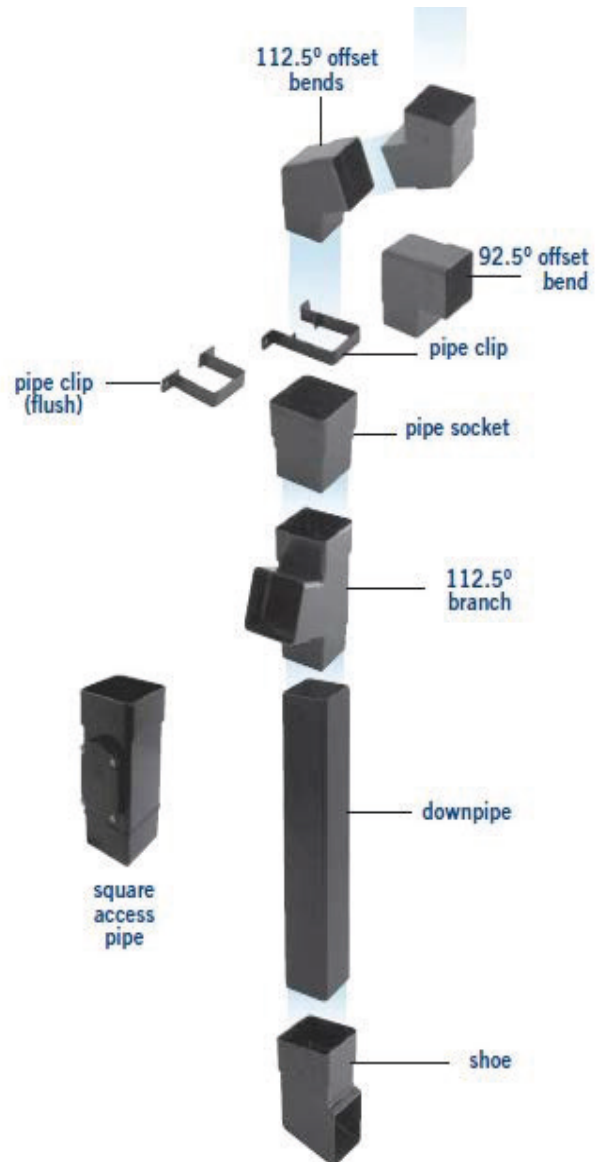
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## Round Pipe System:



## Square Pipe System:



**CAST IRON EFFECT**

Systems available in Cast Iron Effect are: Half Round, Ogee and Deep Gutter.

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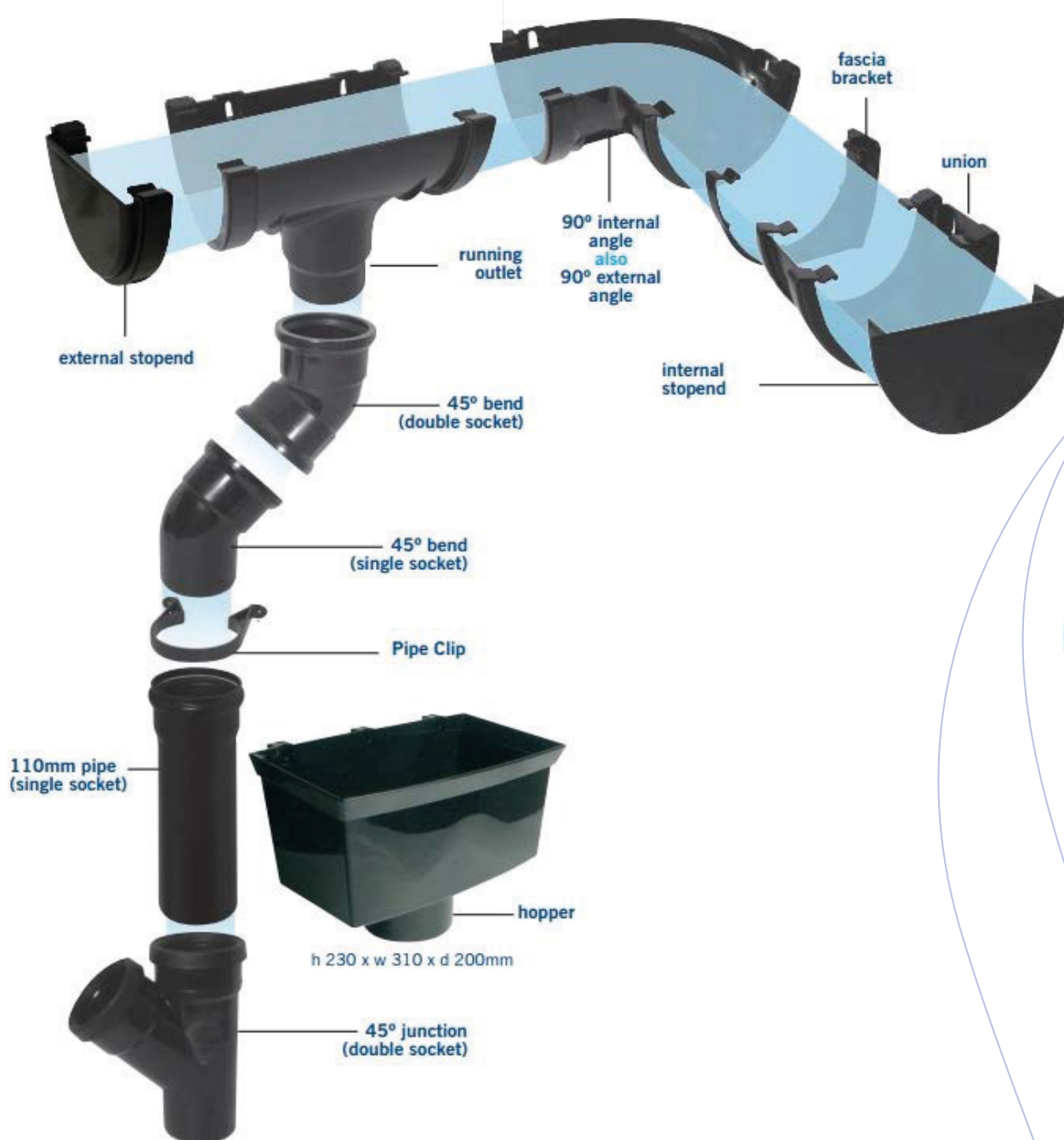
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## SuperDeep 170 System



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