

Hargreaves Drainage's business is based on friendly, flexible and prompt service. We distribute through merchants to customers throughout the UK and Ireland. We also have the capability to distribute worldwide.

Hargreaves Drainage's UK operations and production are on one site. We have our own pattern making, foundry and fabrication facilities, which enables us to manufacture bespoke and special items to meet your requirements. Our dedicated team will manage your order throughout each stage of the process, ensuring quality standards and delivery deadlines are met in full.

We have invested significantly in warehousing and stock so that we can deliver complete orders on time and within deadlines agreed by customers.

Our technical sales staff are able to visit your site or office and can provide advice, information and quotes to specifiers, contractors and end users.

Our sales office is open between 7:30 am and 5:00 pm Monday to Friday. All telephone calls are answered promptly and personally.



The **Mech 416** system from Hargreaves Drainage is a mechanically jointed socketless cast iron system for above ground soil drainage. It is finished in a matt black two part epoxy coating.

These products are manufactured to meet the needs of specifiers and contractors. The **Mech 416** system is especially suitable for the refurbishment of apartment blocks and multi-storey car parks.

Mechanically jointed systems provide all the benefits of a conventional BS416 socket and spigot cast iron soil system but also offer significant labour savings due to the efficient jointing techniques employed.

The installation is mechanically jointed using simple and reliable couplings. It can be fitted both horizontally and vertically.



Applicable Standards

BS 416 part 2

Soil, waste and ventilating pipes and fittings.

BS 6087

Flexible joints for BS 416 part 2.

Codes of Practice

BS EN 12056

Codes of practice for gravity drainage systems, internal buildings- sanitary pipework and drainage of roofs.



Materials

Pipes and fittings are manufactured in grey cast iron which exceeds the requirements of BS EN 1561 Grade EN-JL 1020, ISO 185 Grade 15.

Mech 416 ductile cast iron couplings are manufactured in accordance with BS EN 1563, ISO 1083 with minimum tensile strength of 420N/mm²

All couplings are supplied with EPDM rubber sealing rings which are suitable for most applications but where aggressive waste liquids are to be discharged please check with our technical departments as to their suitability. Nitrile rubber will be considered upon request.

Coating specification

Pipes

External: Two part epoxy coating (black) with an average dry wall thickness of 70 microns.

Internal: Two part epoxy coating (yellow ochre) with an average dry wall thickness of 130 microns.

Fittings

External: Two part epoxy coating (black) with an average dry wall thickness of 70 microns.

Internal: Two part epoxy coating (black) with an average dry wall thickness of 70 microns.





The Benefits of Cast Iron

Cast iron is suited to rainwater and soil drainage systems.

It offers many benefits to the customer and the contractor which include:

- **Strength and durability** - cast iron is able to withstand the rigours of on-site handling, mechanical de-blocking and vandalism.
- **Long life** - when correctly installed cast iron drainage systems will last the life of the building, whether domestic, public, industrial or commercial.
- **Low maintenance** - cast iron requires little ongoing maintenance, annual inspections are recommended but remedial action is rarely required.
- **Design capability** - cast iron can meet the needs of restoration, refurbishment, conservation and heritage work as well as new, bespoke and unique designs.
- **Sustainability** - in addition to lasting the life of a building and requiring minimal maintenance cast iron is 100% recyclable.
- **Cost effective** - owing to its longevity, low maintenance, fire resistance, and low noise operation the cost benefits of cast iron are significant.
- **Fire resistance & Safety** - the melting point of cast iron is considerably higher than PVCu or PE and in the event of a fire will not emit toxic fumes or drop burning globules of material from one compartment to another. In multi occupancy buildings intumescent fire collars need to be fitted to PVCu pipework, cast iron has no such requirement.

The Benefits of the Mech 416 Range

Comprehensive range

Mech 416 complies with BS 416 part 2 except 70mm diameter* and provides a complete system of pipes and fittings for the conveyance of waste water and rainwater through a building as far as the drain connection.

Couplings

The Mech 416 ductile cast iron two piece coupling provides a quick and efficient jointing method and is supplied in a matt black colour to match the pipework.

Lightweight

Compared to traditional BS 416 socket and spigot soil products the Mech 416 system is lighter and easier to handle but still retains all the inherent qualities of cast iron including strength and longevity.

Value for money

The Mech 416 system compares favourably with other materials; including PVCu solvent weld systems, on labour rates. It can also provide cost savings when intumescent fire collars, sound insulation, expansion joints and extra brackets are required for PVCu to satisfy the building requirements. Also, in normal circumstances, cast iron will last the life of the building.

Low maintenance

The combination of great strength and improved surface coatings on the Mech 416 system delivers a fit and forget solution in most installations. This is especially important when pipework is concealed and inaccessible and where maintenance would be disruptive to occupants of the building.

Low noise operation

A factor often overlooked is the excessive noise created by waste water running through pipework manufactured from materials with a much lower density than cast iron. Whilst never welcome, this is especially inappropriate for hospitals, hotels and apartment blocks.

Improved pipe coating

The Mech 416 system pipes are lined internally with a two part epoxy finish which provides improved performance when exposed to aggressive substances. Fittings are also epoxy coated and provide a similar level of performance.

100% recyclable and sustainable

Cast iron will not only last the life of the building but is strong enough to withstand on site handling, mechanical unblocking and vandalism. It also reduces the use of natural resources by utilising almost 100% scrap and recycled metal in the manufacturing process. Finally, when a building reaches the end of its lifespan, all the cast iron can be recycled to make new products.

*The 70mm size complies with BS416 part 2 material specification but differs slightly to traditional 75mm (3") with a marginally reduced pipe diameter. Where there is a requirement for connection of 70mm to existing 75mm pipework please contact our Sales Office who will advise on the best method and solution.





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Features of the Ductile Iron Coupling

- Two piece coupling manufactured from ductile iron BS EN 1563
- Zinc plated socket cap locking screw and nut M8 x 40 for 50mm-100mm and M8 x 55 for 150mm (6mm Allen drive)
- 2 locking screws on 50mm-100mm and 4 locking screws on 150mm diameter
- EPDM sealing ring
- For use up to and including 0.5 bar internal pressure

Jointing Method for Ductile Iron Couplings

Step 1

Check the components- 2 part coupling and EPDM gasket, 2 x M8 bolts and nuts for 50mm - 100mm diameter, 4 x M8 nuts and bolts for 150mm diameter.

Step 2

Fit the gasket to the lower pipe first, line up the upper pipe and fit carefully into place. Make sure the two pipes are square and parallel and line up correctly with the gasket.

Step 3

Line up the two parts of the coupling ensuring they fit correctly over the gasket.

Step 4

Bolt the two parts of the coupling together and gradually tighten. Avoid tightening only one side at a time and ensure an equal distance is maintained during assembly. Do not over tighten; the optimum torque setting is 1.5Nm.

If couplings with electrical continuity are required these are available with grub screws fitted which when tightened provide this feature.

1 The Mech 416 Bismat Bracket

Can be used for vertical and horizontal operations for pipe sizes 50mm-150mm diameter. Supplied zinc plated and rubber lined only.

This patented bracket features:

- Unique automatic locking system
- Captivated combi slot locking screw
- M8/M10 tapped bosses on 50mm-100mm sizes
- M10 tapped boss on 150mm size
- Ageing resistant EPDM rubber lining

2 The Mech 416 Heavy Duty Bossed Bracket

Available in a zinc plated finish unlined as standard for pipe sizes 50mm-150mm diameter. Also available rubber lined.

This bracket features:

- 2 x M8 locking screws on sizes 50mm-100mm
- 2 x M10 locking screws on sizes 150mm
- M8/M10 tapped boss on size 50mm
- M10/M12 tapped boss on sizes 70mm-150mm
- Can be fixed both horizontally and vertically

**3** The Mech 416 Galvanised Steel Pipe Clamp

Two part clamp: one side hinged the other side with locking screw. For pipe sizes 50mm-150mm diameter.

This clamp features:

- Specially developed for cast iron drainage pipe
- Hinged
- Hot dipped galvanised
- Resistance welded connecting nut M10 on all sizes
- Can be fixed both vertically and horizontally

4 The Mech 416 Split Band Clip

Two part band, zinc plated as standard, supplied with locking nuts and bolts for pipe sizes 50mm-150mm diameter.

This bracket features:

- Zinc plated as standard
- Can be fixed both vertically and horizontally
- Supplied complete with nuts and bolts