Rubber Flexible Couplings and Bushes

MISSION
RUBBER UK

# TECHNICAL BROCHURE

www.missionrubber.co.uk

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Mission Rubber (UK) Ltd. is part of the worldwide Mission Rubber group of companies; the originators, over 50 years ago, of the flexible rubber coupling for the sewerage, drainage and plumbing industries. Since then Mission has grown to become the world's No 1 manufacturer of rubber flexible couplings with manufacturing plants in both America and Europe, and distributors worldwide.

The growth of the company is based upon outstanding product quality with all products manufactured to meet the requirements of UK and international Standards. This in turn is backed by exemplary customer service and sales support.

The strategic aim of Mission Rubber (UK) Ltd. is to remain clearly focused on the coupling market and to continue Mission's dedication to meeting customers' product and service requirements.

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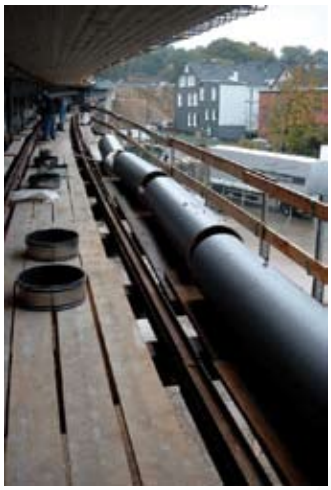
# STANDARD COUPLINGS



**Mission Standard Couplings, which comply with the requirements of WIS 4-41-01, are primarily designed for jointing pipes in sewerage, drainage and other non-pressure applications.**

Due to their robust design they have the ability to provide a reliable seal on any pipe material whether rough e.g. concrete or smooth e.g. PVCu. Whilst the centre shear band provides resistance against heavy earth loads and shear forces, helping to ensure pipe alignment with joint flexibility.

The unique design of the Mission Standard Couplings offers the end user the following benefits

- The thickness of the rubber sleeve allows for greater flexibility and the ability to withstand an internal water pressure of 2.5 bar on pipes such as ductile iron and plastic.
- The new "locked-in-place" profile of the rubber sleeve ensures that both end clamps and shear band remain securely in place during transportation to the job site.
- The elimination of spot-welds on the shear band and their replacement with fasteners using TOX ® technology enhances the corrosion resistance of the couplings. (See page 16)

## Uses

- On public sewers where couplings complying with WIS 4-41-01 are required.
- As a joint for plain ended pipe.
- Where a post connection is required to an existing drain or sewer.
- The repair of existing pipelines by the insertion of a new length of pipe.
- As an adaptor between pipes of different diameter or materials. (Where the difference in diameter exceeds 12mm a bush should be used if an Adaptor Coupling is not available).
- Jointing short or cut lengths of pipe.
- Provision of rocker pipes adjacent to structures.

## STANDARD COUPLINGS • up to 620mm diameter

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MSC 115 | 100 - 115 | 120 | 7 |
| MSC 122 | 105 - 122 | 120 | 7 |
| MSC 137 | 120 - 137 | 120 | 7 |
| MSC 150 | 125 - 150 | 120 | 7 |
| MSC 162 | 137 - 162 | 120 | 7 |
| MSC 175 | 150 - 175 | 120 | 7 |
| MSC 190 | 165 - 190 | 150 | 7.5 |
| MSC 200 | 175 - 200 | 150 | 7.5 |
| MSC 212 | 187 - 212 | 150 | 7.5 |
| MSC 225 | 200 - 225 | 150 | 7.5 |
| MSC 250 | 225 - 250 | 150 | 7.5 |
| MSC 275 | 250 - 275 | 150 | 7.5 |
| MSC 290 | 265 - 290 | 150 | 7.5 |
| MSC 310 | 285 - 310 | 190 | 9.5 |
| MSC 320 | 290 - 320 | 190 | 9.5 |
| MSC 335 | 310 - 335 | 190 | 9.5 |
| MSC 350 | 325 - 350 | 190 | 9.5 |
| MSC 360 | 335 - 360 | 190 | 9.5 |
| MSC 385 | 355 - 385 | 190 | 9.5 |
| MSC 410 | 385 - 410 | 190 | 9.5 |
| MSC 430 | 400 - 430 | 190 | 9.5 |
| MSC 445 | 415 - 445 | 190 | 9.5 |
| MSC 465 | 435 - 465 | 190 | 9.5 |
| MSC 490 | 460 - 490 | 190 | 9.5 |
| MSC 510 | 480 - 510 | 190 | 9.5 |
| MSC 525 | 495 - 525 | 190 | 9.5 |
| MSC 545 | 515 - 545 | 190 | 9.5 |
| MSC 560 | 530 - 560 | 190 | 9.5 |
| MSC 570 | 540 - 570 | 190 | 9.5 |
| MSC 580 | 550 - 580 | 190 | 9.5 |
| MSC 600 | 570 - 600 | 190 | 9.5 |
| MSC 620 | 590 - 620 | 190 | 9.5 |

Also produced in Nitrile rubber and with grade 1.4401 (316) stainless steel fittings. Please contact us for availability.

# LARGE STANDARD COUPLINGS

Large diameter Standard Couplings incorporating a unique bolting system are made to order to suit specific site requirements and will suit any pipe diameter up to 2100mm.

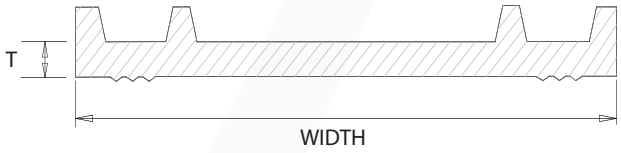
Due to the use of modern fabrication methods any coupling can be supplied to site within 24 hours.

## LARGE STANDARD COUPLINGS
• 601 to 2100mm diameter

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MLC 600 | 601 - 699 | 190 | 9.5 |
| MLC 700 | 700 - 799 | 190 | 9.5 |
| MLC 800 | 800 - 899 | 190 | 9.5 |
| MLC 900 | 900 - 999 | 190 | 9.5 |
| MLC 1000 | 1000 - 1099 | 190 | 9.5 |
| MLC 1100 | 1100 - 1199 | 190 | 9.5 |
| MLC 1200 | 1200 - 1299 | 190 | 9.5 |
| MLC 1300 | 1300 - 1399 | 190 | 9.5 |
| MLC 1400 | 1400 - 1499 | 190 | 9.5 |
| MLC 1500 | 1500 - 1599 | 190 | 9.5 |
| MLC 1600 | 1600 - 1699 | 190 | 9.5 |
| MLC 1700 | 1700 - 1799 | 190 | 9.5 |
| MLC 1800 | 1800 - 1899 | 190 | 9.5 |
| MLC 1900 | 1900 - 1999 | 190 | 9.5 |
| MLC 2000 | 2000 - 2100 | 190 | 9.5 |

Note: The coupling size range is an indication of size for ordering purposes only. Couplings are manufactured to suit customer requirements.

Also produced in Nitrile rubber and with grade 1.4401 (316) stainless steel fittings. Please contact us for availability.




# STANDARD COUPLINGS
## APPLICATION SCHEDULE

**MSC122**
110mm PVCu
100mm Cast Iron (BS416)
100mm Stainless Steel
100mm Cast Iron (BS437)
100mm Ductile Iron
100mm Supersleve (see also SC137)

**MSC137**
100mm (4") Salt Glazed Ware
100mm Vitrified Clay
100mm Supersleve
100mm Pitch Fibre
100mm Asbestos Cement

**MSC162**
160mm PVCu
150mm Cast Iron (SMU/Ensign/SML)
150mm Stainless Steel
160mm Polyethylene

**MSC175**
160mm PVCu
150mm Ductile Iron
150mm Cast Iron (BS416)
150mm Cast Iron (BS437)
150mm Stainless Steel
150mm Ultra-rib
150mm Quantum

**MSC200**
150mm (6") Salt Glazed Ware
150mm Vitrified Clay
150mm Supersleve

**MSC200** continued
150mm Concrete
150mm Asbestos Cement
150mm Pitch Fibre
180mm Ultra-Rib
200mm PVCu

**MSC225**
200mm Ductile Iron
200mm Cast Iron (BS416)

**MSC250**
175mm Pitch Fibre
200mm Vitrified Clay
200mm Asbestos Cement
225mm Ultra-Rib
225mm Quantum
250mm PVCu

**MSC275**
250mm Ductile Iron
250mm Cast Iron

**MSC290**
225mm (9") Salt Glazed Ware
225mm Vitrified Clay
225mm Concrete (O.D Up to 290mm)
250mm Asbestos Cement
250mm Ductile Iron

**MSC320**
315mm PVCu

**MSC335**
300mm Ductile Iron
300mm Cast Iron

**MSC345**
300mm Asbestos Cement
300mm Ultra-Rib
300mm Quantum
300mm Ductile Iron

**MSC385**
300mm (12") Salt Glazed Ware
300mm Vitrified Clay
300mm Concrete (O.D upto 385mm)

**MSC445**
375mm Asbestos Cement
400mm Ductile Iron
400mm Cast Iron

**MSC465**
375mm (15") Salt Glazed Ware
375mm Vitrified Clay
375mm Concrete (O.D up to 465mm)
400mm Asbestos Cement
450mm PVCu

**MSC510**
375mm Concrete
(O.D Over 490mm up to 510mm)
400mm Vitrified Clay

**MSC560**
450mm (18") Salt Glazed Ware
450mm Vitrified Clay
450mm Concrete (O.D up to 560mm)
500mm Asbestos Cement

# EXTRA WIDE COUPLINGS

**Standard Extra Wide Couplings are principally designed for joining large diameter pipes of size DN1000 and greater. The 300mm width of the coupling allows for greater tolerance in the cutting of the pipe ends as well as providing for greater movement of the pipe ends due to settlement or thermal movement.**

Whilst generally used on pipes over DN1000 couplings are available to suit pipes from DN300.

These couplings, because of their extra width can also be used to repair pipes, which are cracked or have suffered local damage.

All couplings are manufactured to suit specific site requirements and can be produced in any diameter.

## Uses

- Connection of large diameter pipes.
- Repair of cracked or locally damaged pipes.
- Use where angular deflection at the joint is greater than that allowed by a Standard Coupling.

## EXTRA WIDE STANDARD COUPLINGS

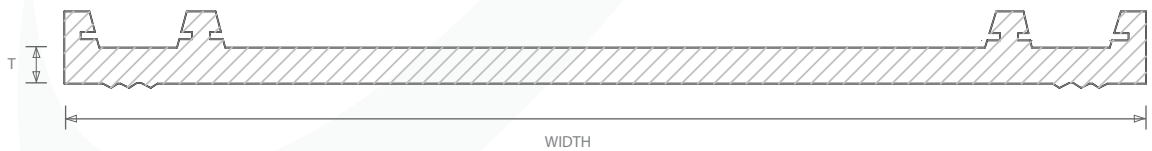
| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MSC 250W | 225 - 250 | 300 | 10 |
| MSC 275W | 250 - 275 | 300 | 10 |
| MSC 290W | 265 - 290 | 300 | 10 |
| MSC 310W | 285 - 310 | 300 | 10 |
| MSC 320W | 290 - 320 | 300 | 10 |
| MSC 335W | 310 - 335 | 300 | 10 |
| MSC 350W | 325 - 350 | 300 | 10 |
| MSC 360W | 335 - 360 | 300 | 10 |
| MSC 385W | 355 - 385 | 300 | 10 |
| MSC 410W | 385 - 410 | 300 | 10 |
| MSC 430W | 400 - 430 | 300 | 10 |
| MSC 445W | 415 - 445 | 300 | 10 |
| MSC 465W | 435 - 465 | 300 | 10 |
| MSC 490W | 460 - 490 | 300 | 10 |
| MSC 510W | 480 - 510 | 300 | 10 |
| MSC 525W | 495 - 525 | 300 | 10 |
| MSC 545W | 515 - 545 | 300 | 10 |
| MSC 560W | 530 - 560 | 300 | 10 |
| MSC 570W | 540 - 570 | 300 | 10 |
| MSC 580W | 550 - 580 | 300 | 10 |
| MSC 600W | 570 - 600 | 300 | 10 |
| MSC 620W | 590 - 620 | 300 | 10 |

## EXTRA WIDE LARGE COUPLINGS

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MLC 600W | 601 - 699 | 300 | 10 |
| MLC 700W | 700 - 799 | 300 | 10 |
| MLC 800W | 800 - 899 | 300 | 10 |
| MLC 900W | 900 - 999 | 300 | 10 |
| MLC 1000W | 1000 - 1099 | 300 | 10 |
| MLC 1100W | 1100 - 1199 | 300 | 10 |
| MLC 1200W | 1200 - 1299 | 300 | 10 |
| MLC 1300W | 1300 - 1399 | 300 | 10 |
| MLC 1400W | 1400 - 1499 | 300 | 10 |
| MLC 1500W | 1500 - 1599 | 300 | 10 |
| MLC 1600W | 1600 - 1699 | 300 | 10 |
| MLC 1700W | 1700 - 1799 | 300 | 10 |
| MLC 1800W | 1800 - 1899 | 300 | 10 |
| MLC 1900W | 1900 - 1999 | 300 | 10 |
| MLC 2000W | 2000 - 2099 | 300 | 10 |

Note: The coupling size range is an indication of size for ordering purposes only. Couplings are manufactured to suit customer requirements.

Also produced in Nitrile rubber and with grade 1.4401 (316) stainless steel fittings. Please contact us for availability.



# DRAIN COUPLINGS

**Drain Couplings are designed for use in drainage systems, where the resistance to earth loads and shear forces provided by a shear band is not required. They are available to joint drainage pipes up to 225mm diameter.**

Due to the use of modern fabrication methods any coupling can be supplied to site within 24 hours.

## Uses

- As a joint for plain ended pipe.
- The repair of an existing drain by the insertion of a new length of pipe.
- As an adaptor between pipes of different materials.
- Jointing short or cut lengths of pipe.
- Provision of rocker pipes adjacent to structures.

## DRAIN COUPLINGS • 50 - 225mm

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MDC 100 | 85 - 100 | 100 | 7 |
| MDC 115 | 100 - 115 | 120 | 7 |
| MDC 122 | 107 - 122 | 120 | 7 |
| MDC 135 | 120 - 135 | 120 | 7 |
| MDC 150 | 135 - 150 | 120 | 7 |
| MDC 165 | 150 - 165 | 120 | 7 |
| MDC 175 | 160 - 175 | 120 | 7 |
| MDC 195 | 180 - 195 | 120 | 7.5 |
| MDC 212 | 197 - 212 | 120 | 7.5 |
| MDC 225 | 210 - 225 | 120 | 7.5 |

Also produced in Nitrile rubber and with grade 1.4401 (316) stainless steel fittings. Please contact us for availability.

# DRAIN COUPLINGS
## APPLICATION SCHEDULE

**MDC115**
110mm PVCu
100mm Cast Iron (Soil) (SMU/Ensign/SML)
100mm Stainless Steel
100mm Corrugated Plastic
110mm Corrugated Plastic

**MDC125**
100mm Supersleve
100mm Cast Iron (Drain)
100mm Ductile Iron
100mm Grey Iron
100mm Asbestos Cement
100mm Pitch Fibre
100mm Twin Walled Plastic

**MDC135**
100mm Supersleve
100mm (4") Salt Glazed Ware
100mm Vitrified Clay
100mm Pitch Fibre
100mm Asbestos Cement

**MDC150**
125mm Cast Iron (Soil)
125mm Twin Walled Plastic

**MDC165**
160mm PVCu
150mm Cast Iron (SMU/Ensign/SML)
150mm Stainless Steel
160mm Polyethylene

**MDC175**
150mm Ultra-Rib
150mm Quantum
150mm Ductile Iron
150mm Grey Iron
150mm Twin Walled Plastic (Wavin/Norflex)
150mm Corrugated Plastic (Wavin/Aquapipe)

**MDC195**
150mm Supersleve
150mm (6") Salt Glazed Ware
150mm Vitrified Clay
150mm Concrete
150mm Asbestos Cement
150mm Pitch Fibre

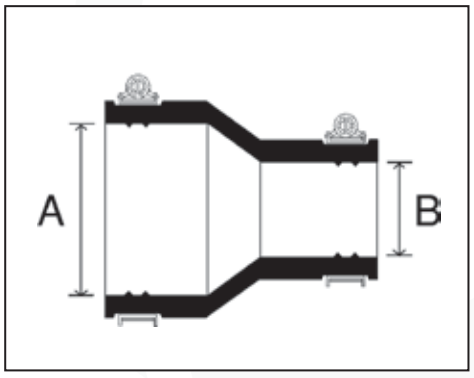
# ADAPTORS

Adaptor couplings are designed to provide a solution to most requirements for adaptation between pipes of different sizes and materials up to DN300. The range covers both traditional and new pipe materials an important factor with the increased development of brownfield sites.

The couplings consist of a stepped moulded sleeve with different diameters at each end, which is sealed on the pipes by two clamping bands.

## Uses

- Connecting pipes of different outside diameters and/or materials without the use of a bush.
- Connecting laterals to sewers or drains.
- Connecting pipes to prefabricated structures e.g. manholes, inspection chambers, septic tanks.




## ADAPTORS

| REFERENCE NUMBER | SIZE RANGE (mm) A | SIZE RANGE (mm) B | WIDTH (mm) C |
|---|---|---|---|
| MAC 4000 | 121 - 137 | 108 - 122 | 120 |
| MAC 6000 | 180 - 200 | 160 - 180 | 150 |
| MAC 1153 | 100 - 115 | 40 - 50 | 100 |
| MAC 1154 | 100 - 115 | 53 - 63 | 100 |
| MAC 1155 | 100 - 115 | 75 - 89 | 100 |
| MAC 1251 | 110 - 125 | 80 - 95 | 120 |
| MAC 5144 | 110 - 125 | 100 - 115 | 120 |
| MAC 1360 | 121 - 136 | 75 - 89 | 100 |
| MAC 1361 | 121 - 136 | 80 - 95 | 120 |
| MAC 1362 | 121 - 136 | 100 - 115 | 120 |
| MAC 1451 | 130 - 145 | 95 - 110 | 100 |
| MAC 1452 | 130 - 145 | 110 - 125 | 120 |
| MAC 1501 | 135 - 150 | 100 - 115 | 100 |
| MAC 1602 | 144 - 160 | 110 - 125 | 120 |
| MAC 1603 | 144 - 160 | 121 - 136 | 120 |
| MAC 1701 | 155 - 170 | 100 - 115 | 150 |
| MAC 1702 | 155 - 170 | 110 - 125 | 120 |
| MAC 1703 | 155 - 170 | 130 - 145 | 120 |
| MAC 1801 | 160 - 180 | 100 - 115 | 150 |
| MAC 1802 | 160 - 180 | 110 - 125 | 150 |
| MAC 1805 | 160 - 180 | 155 - 170 | 150 |
| MAC 1922 | 170 - 192 | 110 - 125 | 120 |
| MAC 1923 | 170 - 192 | 121 - 136 | 120 |
| MAC 1924 | 170 - 192 | 144 - 160 | 120 |
| MAC 1991 | 180 - 200 | 100 - 115 | 150 |
| MAC 1993 | 180 - 200 | 121 - 136 | 150 |
| MAC 2000 | 180 - 200 | 130 - 145 | 150 |
| MAC 2001 | 180 - 200 | 155 - 170 | 150 |
| MAC 2102 | 185 - 210 | 110 - 125 | 150 |
| MAC 2104 | 185 - 210 | 130 - 145 | 150 |
| MAC 2105 | 185 - 210 | 144 - 160 | 150 |
| MAC 2152 o/s | 200 - 215 | 100 - 115 | 150 |
| MAC 2203 | 195 - 220 | 155 - 170 | 150 |
| MAC 2303 | 205 - 230 | 130 - 145 | 165 |
| MAC 2352 | 210 - 235 | 110 - 125 | 150 |
| MAC 2353 | 210 - 235 | 121 - 136 | 150 |
| MAC 2354 | 210 - 235 | 144 - 160 | 150 |
| MAC 2355 | 210 - 235 | 170 - 192 | 150 |
| MAC 2356 | 210 - 235 | 190 - 215 | 150 |
| MAC 2505 | 225 - 250 | 155 - 170 | 150 |

| REFERENCE NUMBER | SIZE RANGE (mm) A | SIZE RANGE (mm) B | WIDTH (mm) C |
|---|---|---|---|
| MAC 2507 | 225 - 250 | 195 - 220 | 150 |
| MAC 2508 | 225 - 250 | 205 - 230 | 150 |
| MAC 2654 | 240 - 265 | 144 - 160 | 150 |
| MAC 2655 | 240 - 265 | 170 - 192 | 150 |
| MAC 2656 | 240 - 265 | 190 - 215 | 150 |
| MAC 2657 | 240 - 265 | 210 - 235 | 150 |
| MAC 2753 | 250 - 275 | 155 - 170 | 165 |
| MAC 2755 | 250 - 275 | 195 - 220 | 165 |
| MAC 2904 | 265 - 290 | 144 - 160 | 150 |
| MAC 2905 | 265 - 290 | 170 - 192 | 150 |
| MAC 2906 | 265 - 290 | 190 - 215 | 150 |
| MAC 2907 | 265 - 290 | 210 - 235 | 150 |
| MAC 2908 | 265 - 290 | 240 - 265 | 150 |
| MAC 3003 o/s | 275 - 300 | 180 - 200 | 150 |
| MAC 3157 | 290 - 315 | 245 - 270 | 165 |
| MAC 3158 | 290 - 315 | 260 - 285 | 165 |
| MAC 3204 | 295 - 320 | 144 - 160 | 150 |
| MAC 3205 | 295 - 320 | 170 - 192 | 150 |
| MAC 3206 | 295 - 320 | 190 - 215 | 150 |

o/s = offset

| REFERENCE NUMBER | SIZE RANGE (mm) A | SIZE RANGE (mm) B | WIDTH (mm) C |
|---|---|---|---|
| MAC 3207 | 295 - 320 | 210 - 235 | 150 |
| MAC 3208 | 295 - 320 | 240 - 265 | 150 |
| MAC 3209 | 295 - 320 | 265 - 290 | 150 |
| MAC 3257 | 300 - 325 | 250 - 275 | 165 |
| MAC 3307 | 305 - 330 | 245 - 270 | 150 |
| MAC 3351 o/s | 310 - 335 | 180 - 205 | 150 |
| MAC 3357 | 310 - 335 | 295 - 320 | 150 |
| MAC 3600 | 335 - 360 | 295 - 320 | 165 |
| MAC 3606 | 335 - 360 | 190 - 215 | 165 |
| MAC 3607 | 335 - 360 | 210 - 235 | 165 |
| MAC 3608 | 335 - 360 | 240 - 260 | 165 |
| MAC 3609 | 335 - 360 | 265 - 290 | 165 |
| MAC 3708 | 345 - 370 | 300 - 325 | 165 |
| MAC 3709 | 345 - 370 | 310 - 335 | 165 |
| MAC 3850 | 360 - 385 | 300 - 325 | 165 |
| MAC 3858 | 360 - 385 | 240 - 265 | 165 |
| MAC 3859 | 360 - 385 | 265 - 290 | 165 |
| MAC 4208 | 395 - 420 | 240 - 265 | 165 |
| MAC 4209 | 395 - 420 | 265 - 290 | 165 |

Also produced in Nitrile rubber and with grade 1.4401 (316) stainless steel fittings. Please contact us for availability.

# ADAPTORS
## APPLICATION SCHEDULE

### UNIVERSAL ADAPTORS

| | | | |
|---|---|---|---|
| Salt Glazed Ware (4") | 100mm | MAC4000 | 110mm PVCu<br>100mm Cast Iron (Soil & Drain)<br>100mm Cast Iron (SMU/Ensign/SML)<br>100mm Ductile Iron<br>100mm Stainless Steel<br>100mm Supersleve |
| Vitrified Clay | 100mm | | |
| Supersleve | 100mm | | |
| Pitch Fibre | 100mm | | |
| Asbestos Cement | 100mm | | |
| Salt Glazed Ware (6") | 150mm | MAC6000 | 160mm PVCu<br>150mm Cast Iron (Soil & Drain)<br>150mm Cast Iron (SMU/Ensign/SML)<br>150mm Ductile Iron<br>150mm Stainless Steel<br>150mm Supersleve<br>180mm150mm Ultra-rib |
| Vitrified Clay | 150mm | | |
| Supersleve | 150mm | | |
| Pitch Fibre | 150mm | | |
| Asbestos Cement | 150mm | | |
| Concrete | 150mm | | |
| Ultra Rib | 180mm | | |
| PVCu | 200mm | | |

### DRAINAGE ADAPTORS

| | | | |
|---|---|---|---|
| PVCu | 110mm | MAC1251 | 82mm (3") PVCu<br>75mm Cast Iron (Soil & Drain)<br>75mm Cast Iron (SMU/Ensign)<br>0mm Cast Iron (SMU/Ensign/SML) |
| Cast Iron (Soil & Drain | 100mm | | |
| Cast Iron (SMU/Ensign/SML) | 100mm | | |
| Ductile Iron | 100mm | | |
| Supersleve | 100mm | | |
| PVCu | 110mm | MAC5144 | 75mm Ductile Iron<br>100mm Cast Iron (Soil)<br>100mm Cast Iron (SMU/Ensign/SML)<br>100mm Stainless Steel<br>110mm PVCu |
| Supersleve | 100mm | | |
| Cast Iron (Soil & Drain) | 100mm | | |
| Cast Iron (SMU/Ensign/SML) | 100mm | | |
| Ductile Iron | 100mm | | |
| Stainless Steel | 100mm | | |
| Asbestos Cement | 100mm | | |
| Supersleve | 100mm | MAC1361 | 82mm (3") PVCu<br>75mm (Cast Iron (Soil & Drain)<br>75mm Cast Iron (SMU/Ensign)<br>70mm Cast Iron (SMU/Ensign/SML) |
| Vitrified Clay | 100mm | | |
| Asbestos Cement | 100mm | | |
| Cast Iron (SMU/Ensign/SML) | 125mm | | |
| Supersleve | 100mm | MAC1362 | 75mm Ductile Iron<br>100mm Cast Iron (Soil)<br>100mm Cast Iron (SMU/Ensign/SML)<br>100mm Stainless Steel<br>110mm PVCu |
| Vitrified Clay | 100mm | | |
| Asbestos Cement | 100mm | | |
| Cast Iron (SMU/Ensign/SML) | 125mm | | |

| | | | |
|---|---|---|---|
| PVCu | 160mm | MAC1602 | 110mm PVCu<br>100mm Cast Iron (Soil & Drain)<br>100mm Cast Iron (SMU/Ensign/SML<br>100mm Ductile Iron<br>100mm Stainless Steel<br>100mm Supersleve |
| Cast Iron (SMU/Ensign/SML) | 150mm | | |
| Stainless Steel | 150mm | | |
| Vitrified Clay (S.G.W) | 150mm | MAC1922 | 110mm PVCu<br>100mm Cast Iron (Soil & Drain)<br>100mm Cast Iron (SMU/Ensign/SML)<br>100mm Ductile Iron<br>100mm Stainless Steel<br>100mm Supersleve |
| Supersleve | 150mm | | |
| Ultra Rib | 150mm | | |
| Ductile Iron | 150mm | | |
| Cast Iron (Drain) | 150mm | | |
| Asbestos Cement | 150mm | | |
| Pitch Fibre | 150mm | | |
| Twin Walled Plastic | 150mm | | |
| Vitrified Clay (S.G.W) | 150mm | MAC1923 | 100mm Supersleve<br>100mm Vitrified Clay<br>100mm Asbestos Cement<br>125mm Cast Iron (SMU/Ensign/SML) |
| Supersleve | 150mm | | |
| Ultra Rib | 150mm | | |
| Ductile Iron | 150mm | | |
| Cast Iron (Drain) | 150mm | | |
| Asbestos Cement | 150mm | | |
| Pitch Fibre | 150mm | | |
| Twin Walled Plastic | 150mm | | |
| Vitrified Clay (S.G.W) | 150mm | MAC1924 | 160mm PVCu<br>150mm Cast Iron (SMU/Ensign/SML)<br>150mm Stainless Steel |
| Supersleve | 150mm | | |
| Ultra Rib | 150mm | | |
| Ductile Iron | 150mm | | |
| Cast Iron (Drain) | 150mm | | |
| Asbestos Cement | 150mm | | |
| Pitch Fibre | 150mm | | |
| Twin Walled Plastic | 150mm | | |
| Salt Glazed Ware (9") | 225mm | MAC2906 | 150mm Vitrified Clay<br>180mm MDPE<br>180mm Ultra-Rib<br>200mm PVCu<br>200mm MDPE |
| Vitrified Clay | 225mm | | |
| Ductile Iron | 250mm | | |
| Grey Iron | 250mm | | |
| MDPE | 280mm | | |
| Salt Glazed Ware (9") | 225mm | MAC2908 | 200mm Vitrified Clay<br>225mm Asbestos Cement<br>225mm Ultra-Rib<br>225mm Ductile Iron<br>225mm Cast Iron (Drain)<br>250mm PVCu<br>250mm MDPE |
| Vitrified Clay | 225mm | | |
| Ductile Iron | 250mm | | |
| Grey Iron | 250mm | | |
| MDPE | 280mm | | |

# PLUMBING COUPLINGS

A range of couplings especially designed for small diameter plumbing applications. Both straight and adaptor couplings are available.

These couplings are ideal for emergency repairs as they are quick and easy to install and require no special tools.

## Uses

- These couplings are used to connect pipes in most low/non-pressure plumbing systems. The straight couplings are suitable for use with pipes of similar outside diameters, whereas adaptor couplings are used to join pipes of different outside diameters or materials.

## STRAIGHT COUPLINGS

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MDC 32 | 24 - 32 | 65 | 5 |
| MDC 40 | 32 - 40 | 65 | 5 |
| MDC 50 | 42 - 50 | 65 | 5 |
| MDC 65 | 55 - 65 | 90 | 5.7 |
| MDC 75 | 65 - 75 | 90 | 6.4 |
| MDC 89 | 75 - 89 | 100 | 7 |

## ADAPTOR COUPLINGS

| REFERENCE NUMBER | SIZE RANGE (mm) | WIDTH (mm) | T (mm) |
|---|---|---|---|
| MAC 0401 | 32 - 40 | 24 - 32 | 65 |
| MAC 0501 | 40 - 50 | 24 - 32 | 65 |
| MAC 0502 | 40 - 50 | 32 - 40 | 65 |
| MAC 0632 | 53 - 63 | 32 - 40 | 65 |
| MAC 0633 | 53 - 63 | 40 - 50 | 90 |
| MAC 0893 | 75 - 89 | 40 - 50 | 100 |
| MAC 0894 | 75 - 89 | 53 - 63 | 100 |

# PLUMBING FITTINGS

Mission Tees and Elbows connect to new and traditional plumbing pipes without the need for special tools thereby making them ideal for emergency replacements or repair. They are manufactured synthetic rubber with 300 series corrosion resistant stainless steel end clamps.

Their design makes them especially suitable for use in confined areas.

## Uses

- Emergency repairs to existing pipework without the need for special tools.
- New connections to existing pipework.
- Replacement of existing tees or elbows when cut out for replacement or repair.

## TEES

| REFERENCE NUMBER | SIZE RANGE (mm) |
|---|---|
| MTY 150 | 41 - 48 |
| MTY 200 | 54 - 63 |
| MTY 300 | 80 - 89 |
| MTY 400 | 105 - 116 |

## ELBOWS

| REFERENCE NUMBER | SIZE RANGE (mm) |
|---|---|
| M90L 150 | 41 - 48 |
| M90L 200 | 54 - 63 |
| M90L 300 | 80 - 89 |
| M90L 400 | 105 - 116 |

## END CAPS

Mission End Caps with their robust design in synthetic rubber can be used both for temporary or permanent sealing of pipe ends. End clamps are manufactured from 300 series corrosion resistant stainless steel.

Uses

- Temporary protective cap to prevent ingress of dirt or water.
- Permanent clean-out cap.
- Air testing of soil or waste systems.

| REFERENCE NUMBER | SIZE RANGE (mm) |
|---|---|
| MEC 1 | 45 - 55 |
| MEC 2 | 56 - 66 |
| MEC 3 | 80 - 90 |
| MEC 4 | 105 - 115 |
| MEC 5 | 130 - 140 |
| MEC 6 | 155 - 165 |
| MEC 8 | 205 - 215 |
| MEC 12 | 315 - 330 |
| MEC 18 | 450 - 465 |

## FLEXIBLE RUBBER "J" BEND

| REFERENCE NUMBER | SIZE RANGE (mm) |
|---|---|
| MJB 150 | 32 - 40 |

# PLUMBING
## APPLICATION SCHEDULE

### END CAPS

**MEC1**
40mm ABS
50mm Copper
50mm muPVC
50mm ABS
50mm Polypropylene

**MEC2**
50mm ABS
50mm(2") Cast Iron (BS 416)
50mm Cast Iron (BS437)
50mm Cast Iron (SMU/SML/Ensign)
50mm Galvanised Steel
50mm Aluminium

**MEC3**
70mm Cast Iron (SML/Ensign)
75mm Cast Iron (Soil)
75mm Cast Iron (SMU)
75mm Galvanised Steel
82mm PVCu

**MEC4**
100mm Cast Iron (SMU/SML/Ensign)
100mm Cast Iron (SOIL)

**MEC4 continued**
100mm Galvanised Steel
100mm Ployethylene
108mm (4") Copper
110mm PVCu

**MEC5**
150mm (6") Salt Glazed Ware
100mm Vitrified Clay
125mm Cast Iron (SMU/SML/Ensign)
125mm Cast Iron (BS416)

**MEC6**
150mm Quantum
150mm ABS
150mm Cast Iron (SMU/SML/Ensign)
150mm Cast Iron (BS416)
150mm Stainless Steel
150mm Polypropylene
160mm PVCu

**MEC8**
200mm Cast Iron (SMU/SML/Ensign)
200mm Cast Iron (BS416)

### STRAIGHT COUPLINGS

**MDC 50**
40mm ABS
40mm Polypropylene

**MDC 65**
50mm Cast Iron (BS416)
50mm Cast Iron (BS 437)
50mm Cast Iron (SMU/SML/Ensign)
50mm ABS
50mm (2") Copper

**MDC 75**
70mm (2.5") Copper
2.5" Cast Iron (BS416)

**MDC 89**
70mm Cast Iron (SMU/Ensign)
75mm (3") Cast Iron (BS416)
75mm (3") Copper
75mm Aluminium
80mm Galvanised Steel

**MDC 100**
3" Cast Iron (BS437)
3.5" Cast Iron (BS 416)
3.5" Copper

### ADAPTOR COUPLINGS

| | | | |
|---|---|---|---|
| Copper | 50mm | MAC0633 | 40mm ABS<br>40mm Polypropylene |
| Galvanised Steel | 50mm | | |
| muPVC | 50mm | | |
| ABS | 50mm | | |
| Polypropylene | 50mm | | |
| Aluminium | 50mm | | |
| Cast Iron (BS416) | 50mm | | |
| Cast Iron (SMU/SML/Ensign) | 50mm | | |

| | | | |
|---|---|---|---|
| 70mm Cast Iron (SMU/Ensign) | 70mm | MAC0893 | 40mm Polypropylene |
| 75mm (3") Cast Iron (BS416) | 75mm | | |
| 75mm (3") Copper | 75mm | | |
| 75mm Aluminium | 75mm | | |
| 80mm Galvanised Steel | 80mm | | |

| | | | |
|---|---|---|---|
| 70mm Cast Iron (SMU/Ensign) | 70mm | MAC0893 | 50mm Copper<br>50mm Galvanised Steel<br>50mm muPVC<br>50mm ABS<br>50mm Polypropylene<br>50mm Aluminium<br>50mm Cast Iron (BS416)<br>50mm Cast Iron (SMU/SML/Ensign) |
| 75mm (3") Cast Iron (BS416) | 75mm | | |
| 75mm (3") Copper | 75mm | | |
| 75mm Aluminium | 75mm | | |
| 80mm Galvanised Steel | 80mm | | |

| | | | |
|---|---|---|---|
| Cast Iron (SML/SMU/Ensign) | 100mm | MAC1153 | 40mm ABS<br>40mm Polypropylene |
| Cast Iron (BS 416) | 100mm | | |
| Copper | 100mm | | |
| PVC | 110mm | | |

| | | | |
|---|---|---|---|
| Cast Iron (SML/SMU/Ensign) | 100mm | MAC1154 | 50mm Cast Iron (BS416)<br>50mm Cast Iron (BS 437)<br>50mm Cast Iron (SMU/SML/Ensign)<br>50mm ABS<br>50mm (2") Copper |
| Cast Iron (BS 416) | 100mm | | |
| Copper | 100mm | | |
| PVC | 110mm | | |

| | | | |
|---|---|---|---|
| Cast Iron (SML/SMU/Ensign) | 100mm | MAC1155 | 70mm Cast Iron (SMU/Ensign)<br>75mm (3") Cast Iron (BS416)<br>75mm (3") Copper<br>75mm Aluminium<br>80mm Galvanised Steel |
| Cast Iron (BS 416) | 100mm | | |
| Copper | 100mm | | |
| PVC | 110mm | | |

# BUSHES

**Bushes are designed to be used with Standard Couplings where the two pipes being connected have significantly different outside diameters. They are available in two types – moulded and fabricated.**

The majority of bushes are fabricated from extruded strip of different thicknesses to suit specific site requirements.

## Uses

- Bushes are used where there is a significant difference (over 12mm) in the outside diameter of the pipes to be jointed, and an Adaptor Coupling is not available.
- Generally a bush is used singularly, but multiple bush sets may be used, and it also possible to use certain bushes with Adaptor and Drain Couplings.

In these cases our Technical Sales Department should consulted before placing an order.

## BUSHES • FABRICATED 135 - 2100MM

The bush size is an indication of size for pricing purposes only, and not the range of one bush. For production we need the outside diameter of both pipes.

Example: DN 160 PVCu to DN150 Clay: 160mm to 186mm: Reference no: BG14/160
YY = thickness of the bushing / XXX = outside diameter of the small pipe.

| BUSH SIZE I.D. (mm) | THICKNESS (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 | 8 | 14 | 16 | 24 | 32 | 40 | 48 |
| 135 - 199 | • | • | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available |
| 200 - 299 | • | • | • | • | Min 250mm | Not Available | Not Available | Not Available |
| 300 - 399 | • | • | • | • | • | • | Not Available | Not Available |
| 400 - 499 | • | • | • | • | • | • | Not Available | Not Available |
| 500 - 599 | • | • | • | • | • | • | • | • |
| 600 - 699 | • | • | • | • | • | • | • | • |
| 700 - 799 | • | • | • | • | • | • | • | • |
| 800 - 899 | • | • | • | • | • | • | • | • |
| 900 - 999 | • | • | • | • | • | • | • | • |
| 1000 - 1099 | • | • | • | • | • | • | • | • |
| 1100 - 1199 | • | • | • | • | • | • | • | • |
| 1200 - 1299 | • | • | • | • | • | • | • | • |
| 1300 - 1399 | • | • | • | • | • | • | • | • |
| 1400 - 1999 | • | • | • | • | • | • | • | • |
| 2000 - 2099 | • | • | • | • | • | • | • | • |

Note: The bush size range is an indication of size for ordering purposes only. Bushes are manufactured to suit customer requirements.

Also produced in Nitrile rubber. Please contact us for availability

## BUSHES • MOULDED

| REFERENCE NUMBER | SIZE RANGE (mm) | NOMINAL OD (mm) |
|---|---|---|
| MBC 06/43 | 35 - 40 | 55 |
| MBC 23/65 | 55 - 65 | 110 |
| MBC 17/76 | 65 - 76 | 110 |
| MBC 08/95 | 85 - 95 | 110 |
| MBC 27/65 | 55 - 65 | 120 |
| MBC 15/115 | 105 - 115 | 145 |

Also produced in Nitrile rubber. Please contact us for availability

# FLEXIBLE SADDLES

**The design of these flexible elastomeric saddles provides a quick and economical method of making lateral connections to existing sewers or drains.**

The saddles are available for both 90deg. and 45deg lateral connections to smooth walled pipes.

The elastomeric sleeve together with a stainless steel apron provides a flexible connection, which accommodates ground movement and minimises shear forces on the main pipe.

An internal pipe stop prevents lateral pipe intrusion into the main sewer.

## Uses

- Connection of 90deg and 45deg laterals to existing drain or sewer systems
- Available for 100mm/150mm and 200mm laterals and suitable for main pipes up to 500mm diameter.

## 90° SADDLES

| REFERENCE NUMBER | LATERAL PIPIE O.D (mm) | MAIN PIPE O.D. (mm) | CORE I.D. (mm) |
|---|---|---|---|
| T-FLEX110-90 | 105 - 120 | 200 - 400 | 117 - 125 |
| T-FLEX125-90 | 115 - 130 | 200 - 400 | 126 - 135 |
| T-FLEX160-90 | 150 - 170 | 250 - 500 | 167 - 175 |
| T-FLEX200-90 | 175 - 200 | 300 - 500 | 203 - 213 |

## 45° SADDLES

| REFERENCE NUMBER | SIZE RANGE (mm) |
|---|---|
| Y-FLEX 110-45 | 152 - 395 O.D. Pipe |
| Y-FLEX 160-45 | 200 - 395 O.D. Pipe |

# LATERAL CONNECTORS

**Lateral Connectors provide a fast,cost effective and effective method of connecting 110mm and 160mm laterals to twinwall or ribbed pipe.**

The Connector is positioned into a pre-drilled hole in the twinwall or ribbed pipe and the lateral inserted until it reaches the stop at the bottom of the Connector. The seal to the lateral is provided by a stainless steel clamping band.

| REFERENCE NUMBER | LATERAL PIPE O.D. (mm) | CORE DRILL DIA (MM) |
|---|---|---|
| LTC 110 | 110 | 127 |
| LTC 160 | 160 | 177 |

# WALL SEALS

For sealing pipe openings through the walls of concrete structures.

e.g. Manholes, Pump Chambers, Storm Tanks etc.

## WALL SEAL M40 width of Sealing 40mm

| REFERENCE NUMBER | O.D. of Pipe (mm) | Drilled hole size (mm) |
|---|---|---|
| M40/ 100 | 110 | 122 |
| M40/ 125 | 125 | 137 |
| M40/ 160 | 160 | 172 |
| M40/ 200 | 200 | 212 |
| M40/ 250 | 225 | 262 |

## WALL SEAL M140 width of Sealing 140mm

| REFERENCE NUMBER | O.D. of Pipe (mm) | Drilled hole size (mm) |
|---|---|---|
| M140/110 | 110 | 122 |
| M140/125 | 125 | 137 |
| M140/160 | 160 | 172 |
| M140/200 | 200 | 212 |
| M140/250 | 225 | 262 |

# TOOLS

| REFERENCE NUMBER | DESCRIPTION | USAGE |
|---|---|---|
| T001 | 8mm Nut Driver | For Couplings upto 300mm I.D |
| T002 | 8mm Ratchet Spanner | For Couplings from 300 to 600mm I.D |
| T003 | 13mm Ratchet Spanner | For Couplings exceeding 600mm I.D |

## CORE DRILL - For Structural Walled Plastic Pipes

| REFERENCE NUMBER | LATERAL PIPE O.D. (mm) | CORE DRILL DIA (MM) |
|---|---|---|
| CD 127 | 110 | 127 |
| CD 177 | 160 | 177 |

# MATERIALS

## ELASTOMERS

### Standard, Drain, Adaptor and Extra wide Couplings. Bushes and Wall seals

The elastomeric components of the above products are made of two types of synthetic elastomer. Either Ethylene Propylene Diene Monomer (EPDM) or Styrene Butadiene Rubber (SBR) is used. These elastomers are both commonly used in pipe joints in drainage and sewerage systems as they offer excellent resistance to normal drain and sewerage effluents as well as excellent long term performance. For situations where effluents or ground water contains hydrocarbons, fats, oil, greases etc. then components in nitrile rubber are available.

Components made from synthetic elastomer conform to the requirements of BS EN 681: Part 1:1996 "Specifications for elastomeric joint rings for pipework and pipelines – drainage". They also conform to the requirements of ISO 4633: 1986 and Australian Standard AS 1646.

### Plumbing couplings, Plumbing fittings, Flexible saddles and End caps

The elastomeric components of the above products are made of three types of synthetic elastomer. Either Ethylene Propylene Diene Monomer (EPDM), Styrene Butadiene Rubber (SBR) or Neoprene Rubber.

## STAINLESS STEEL CLAMPING BANDS, SHEAR RINGS AND COMPONENTS

Stainless steel refers to a range of iron based alloys which rely on their chromium content for resistance to corrosion. Research in a number of countries worldwide has shown that in normal soils austenitic stainless steel with a 17% chromium and 8% nickel content gives satisfactory performance with a design life in excess of 100 years. Whereas in poorly drained gravels, industrial or colliery spoil and in cases where the ground or groundwater contains chlorides (exceeding 1000 ppm) pitting of the steel can occur. In these circumstances then the application of a protective wrapping such as "Densotape" will give adequate protection. Alternatively, in these circumstances an austenitic stainless steel containing molybdenum (minimum 2%) will give better corrosion resistance without the need for additional protection.

### Standard, Drain, Adaptor and Extra wide Couplings.

Mission therefore supplies couplings in two grades of austenitic stainless steel to suit either normal conditions or conditions when additional corrosion resistance is required.

For use in normal conditions Mission's standard products use components manufactured from grade 1.4301 (304) austenitic stainless steel to BS EN10088-2:1995. This grade of stainless steel meets the requirements of both EN295:Part4:1995 and WIS 4-41-01.

For those conditions requiring higher corrosion resistance then components manufactured from grade 1.4401 (316) austenitic stainless steel to BS EN10088-2:1995 is available to special order. This grade contains 2% molybdenum and is especially suitable for marine environments.

### Plumbing fittings, End caps and Flexible saddles

The components on these items are manufactured from a marine grade 300 series austenitic stainless steel.

# ORDER AND DELIVERY

## ORDERING

When ordering couplings or bushes, it is essential to specify the size and type of pipes to be joined. The outside diameter of the pipe(s) is the critical dimension needed to specify the correct coupling and/or bush.

Mission Rubber maintains an extensive stock of all types and sizes of coupling; whereas the most regular requested are also available from many plumber's and builder's merchants nationwide.

All couplings and bushes over 600mm diameter are manufactured to suit specific site requirements; therefore measurement of the outside diameter of the pipes to be joined is strongly recommended before ordering these couplings.

The pipe table (page16) provides guidance on the outside diameters of the more common types and sizes of pipes. For pipes up to DN300, reference can also be made to the application schedules.

## DELIVERY

A "Next-Day" delivery service including before noon and before 9.30 am options is available using overnight carrier services direct from our factory.

A "Same Day" service is also available anywhere in the UK for emergency repairs.

# TOX® TECHNOLOGY

## TOXING® OF THE SHEAR-BAND

Traditional shear band fabrication entails spot welding of clamps to the shear band. Heat created during the welding process actually burns the stainless steel. The composition of the stainless steel is attacked and intercristalline corrosion can result at the welding points.

The shear band on the new Mission, Standard Coupling incorporates the latest in stainless steel fastening techniques: TOX ® Technology (no spot welds). The negative aspects associated with spot welding are eliminated in this advance process, yet the bond meets or exceeds all relevant tensile strength and shear requirements.

# PIPE TABLE

Pipe Table for nominal OD's of Pipes from DN40-DN100 (Guidance only)

| | Nominal Sizes (DN) | | | | | | | | Imperial Sizes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pipe Classification** | **40** | **50** | **65** | **70** | **75** | **80** | **82** | **100** | **2** | **2.5** | **3** | **3.5** | **4** |
| Cast Iron BS416 (Soil) | | 63 | | 89 | | 114 | | | 63/65 | 73 | 89 | 99.2 | 114 |
| Cast Iron BS437 (Drain) | | 65 | | 92 | | 119 | | | | | 92 | | 120 |
| Cast Iron SMU/Ensign/SML | | 60 | | 80 | | | 112 | | | | | | |
| Cast (Spun) Iron BS1211 (A.B.) | 55.9 | 69.1 | 82.3 | | 95.5 | | 121.9 | | | | | | |
| Cast (Spun) Iron BS1211 (C.D.) | 55.9 | 69.1 | 82.3 | | 95.5 | | 121.9 | | | | | | |
| Copper | | 54.1 | | 66.8 | 76.3 | | | 108.3 | | 66.8 | 79.9 | | 106.3 |
| Galvanised Steel BS3868 | | 60.2 | 76 | | 88.7 | | 113.9 | | | | | | |
| PVCu | | | | | 82.8 | 110 | | | | | | | |
| muPVC | | 54.3 | | | | | | | | | | | |
| ABS | 42.9 | 55.9 | | | | | | | | | | | |
| Polypropylene | 41/42.8 | 54.1 | | | | | | | | | | | |
| Aluminium | | 63 | | | 76 | | 102 | | | | | | |

Pipe Table for nominal OD's of Pipes from DN100-DN600 (Guidance only)

| **Nominal Sizes (DN)** | | | | | | | | | | | | | | | **Imperial Sizes** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *HepSleve / HepSeal / Densleeve / Denseal | **100** | **125** | **150** | **175** | **180** | **200** | **225** | **250** | **300** | **350** | **360** | **375** | **400** | **450** | **3** | **5** | **7** | **8** | **9** | **10** | **12** | **15** | **18** |
| SuperSleve / Super Seal | 130-133 | | 186-190 | | | | 269-278 | | 364-380 | | | 451 | 480-492 | 542-544 | 98 | 156 | 213 | 238 | 268 | 295 | 356 | 445 | 533 |
| Concrete | 122 | | 178 | | | | 263 | | 357 | | | | | | | | | | | | | | |
| PVCu | | | 200 | | | | 286-305 | | 375-425 | | | 457-520 | | 525-590 | | | | | | | | | |
| Ultra-Rib | 110 | | 160 | | | 200 | | 250 | 315 | | | | 400 | 450 | | | | | | | | | |
| Quantum Highway / Sewer | | | 170 | | 200 | | 250 | | 335 | | 400 | | | | | | | | | | | | |
| Ridgidrain | | | 160 | | | | 250 | | 330 | | | | 465 | | | | | | | | | | |
| Polysewer / Ridgisewer | 118 | | 178 | | | | 266 | | 354 | | | 435 | 460 | 514 | | | | | | | | | |
| ABS | | | 160 | | | | 250 | | 330 | | | | 457 | 511 | | | | | | | | | |
| Ductile Iron BSEN598 | 114.3 | | 168.3 | 200 | | 219.1 | | 280 | 315 | | | | | | 89 | 140 | | 219 | | 273 | 323 | | |
| Cast Iron SMU/Ensign/SML | 118 | | 170 | | | 222 | | 274 | 326 | 378 | | | 429 | | | 148 | | | | | | | |
| Cast Iron BS437 (Drain) | 112 | 137 | 162 | | | 212 | | 276.5 | 328.5 | | | | | | | | | | | | | | |
| Cast Iron BS416 (Soil) | 114 | | 173 | | | | 256 | | | | | | | | | | | | | | | | |
| Cast (Spun) Iron BS1211 (A.B.) | 119 | | | | | | | | | | | | | | | | | | | | | | |
| Cast (Spun) Iron BS1211 (C.D.) | 121.9 | 149.9 | 177.3 | 204.7 | | 232.2 | 259.1 | 286 | 333.8 | 386.6 | | | | | | | | | | | 333.8 | 413 | 492.3 |
| Grey Iron BS4622 | 121.9 | 149.9 | 177.3 | 204.7 | | 232.2 | 259.1 | 286 | 345.4 | 399.3 | | | | | | | | | | | 345.4 | 426.2 | 453.1 |
| Stainless Steel | 118 | | 170 | | | 222 | | 274 | 326 | | | | 429 | 480 | | | | | | | | | |
| Polyethlene | 110 | | 160 | | | | | | | | | | | | | | | | | | | | |
| Twinwall - PP/PE | 111 | 126 | 161 | | 181 | 201 | 226 | 251 | 317 | 357 | | | 402 | 453 | | | | | | | | | |
| Corrugated PVCu | 119 | 150 | 178 | | | 235 | 268 | | 355 | | | 429 | 455 | 514 | | | | | | | | | |
| Pitch Fibre | 110 | | 170 | | | | 250 | | | | | | | | | | | | | | | | |
| Asbestos Cement L | 125 | | 181 | 238 | | | | | | | | | | | | | | | | | | | |
| Asbestos Cement M | 125 | | 182 | 208 | | 232 | 260 | 288 | 339 | | | 423 | 437 | 484 | | | | | | | | | |
| Asbestos Cement H | | | | | | | | | 346 | | | 429 | 440 | 490 | | | | | | | | | |

* Also referred to as salt glazed ware or vitrified clay

## STANDARD / EXTRA WIDE COUPLINGS

**Insertion of a junction or repair of existing pipeline using Standard Extra Wide Couplings**

A. Cut section from pipeline using pipe cutter or disc saw and remove.
B. This should be about 20mm longer than the junction or short pipe length to be installed.
C. Loosen clamps on coupling and slide onto each end of existing pipeline then position new junction or short pipe length. (Lubricant not required.)
D. Place pencil mark half a coupling width from each joint.
E. Using these pencil marks, centre a coupling over one joint at a time.
F. Tighten the worm drive units in sequence across the width of the coupling to recommended torque. Central shear ring is on the coupling, this should be tightened first.
G. Upon completion of joints, carefully tamp bedding material under the pipe.


## ADAPTOR / DRAIN

**Installing Drain Couplings**

A. Slide the coupling fully onto pipe; positon next pipe.
B. Mark one pipe with a pencil, half a coupling width from the joint.
C. Centre coupling over joint.
D. Tighten clamps to recommended torque and tamp bedding material under pipe.

**Installing Adaptor Couplings**

A. Slide coupling fully onto larger pipe.
B. Mark smaller pipe with a pencil, half a coupling width from the joint.
C. Insert smaller pipe up to the mark.
D. Tighten clamps to recommended torque and tamp bedding material under pipe.

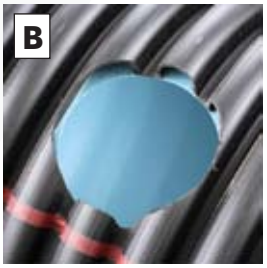

## BUSHES

**Installing a Standard Coupling using a Bush**

A. Slide the bush over the end of the smaller pipe. Loosen the clips on the coupling and place on the end of the larger pipe.
B. If required, additional bushes can be placed over the first to obtain the necessary thickness.
C. Push pipes together and slide the coupling over the bush until the ends are level. (Lubricant not required.)
D. Tighten the central shear ring then clamps to recommended torque.
E. Upon completion of joints, carefully tamp bedding material under the pipe.


## LATERAL CONNECTOR

A. Drill 90° hole to pipe axis
B. Clean and file drill hole
C. Press Lateral Connector (L.C.) into socket
D. Pull L.C. up until bottom flange is tight against inside wall pipe
E. Mark incoming lateral pipe 80 mm from end/ lubricate pipe and L.C.
F. Now press pipe down to lowest stop (mark disappears). Tighten the clamp to 6 Nm



# PERFORMANCE

When correctly installed Mission Rubber's range of couplings, bushes and ancillary products will withstand the following water pressures:-

## STANDARD COUPLINGS AND BUSHES

| | | | |
|---|---|---|---|
| Up to 620mm diameter | 2.5 bar | Plumbing Couplings | 0.6 bar |
| 635mm to 995mm diameter | 1.0 bar | Plumbing Fittings | 0.6 bar |
| Over 995mm diameter | 0.6 bar | End Caps | 0.5 bar |
| Extra Wide Couplings | 0.6 bar | Flexible Saddles | 0.5 bar |
| Drain Couplings | 0.6 bar | Wall Seals | 0.5 bar |
| Adaptor Couplings | 0.6 bar | | |

## SITE TESTING

Mission Rubber Couplings and Bushes will withstand the air and water tests specified in BS EN 1610 "Construction and testing of Drains and Sewers" These tests are part of the requirements of the Civil Engineering Specification for the Water Industry, Sewers for Adoption, Sewers for Scotland and Approved Document H of the Building Regulations.

## LONG TERM PERFORMANCE

There are two aspects which affect the long term performance of a coupling. These are the durability of the materials and the maintenance of an adequate sealing pressure between the coupling and the pipe.

In terms of durability, research and experience has shown that synthetic elastomers such as EPDM and SBR have excellent durability on sewerage, drainage and plumbing systems operating at normal temperatures (below 80 Deg C continuous) and which do not contain harmful industrial effluents. Furthermore austenitic stainless steel, either 1.4301 or 1.4401 depending upon ground conditions has also been shown to have excellent durability according to BS EN 10086.

Long term sealing performance is a function not only of the characteristics of the elastomer but also of the ability of the end clamps to convert tightening torque into clamping force. The choice of synthetic elastomers conforming to EN 681-1 together with clamping bands manufactured to Mission's own specification means that when clamps are tightened to the recommended torque then after 50 years plus the sealing pressure will still be more than sufficient to maintain a leak tight seal.

Overall, Mission is confident that when their products are correctly specified and installed they will have a design life of 100 years.

## CLAMPING SYSTEMS

To resist hydrostatic pressure, both internal and external, as well as root penetration it is necessary to provide a minimum contact pressure between the coupling and the pipe. For a satisfactory design life this contact pressure needs to be the 50 year figure, not the as-installed figure. To ensure that this 50 year figure is attained when a coupling is correctly installed (see page 17) we recommend tightening torques for the end clamps, which are dependent upon the size of the coupling.

Three types of end clamp are used, depending upon the coupling size. Two are worm drive clamps with perforated bands, which are self cleaning should the band become coated in mud or sand. The third is a unique design of bolted clamp specially designed for large diameter couplings.

## RECOMMENDED TIGHTENING TORQUES

| PRODUCT | CLAMP TYPE | RECOMMENDED TORQUE (Nm) |
|---|---|---|
| Standard/Extra Wide Coupling | Hi-Torque | |
| Up to 300mm diameter (MSC290) | | 10 |
| 300 to 620mm diameter (MSC620) | | 13 |
| Large Standard/Extra Wide Cplg | Bolted | |
| Up to 1200 diameter | | 20 |
| Over 1200 diameter | | 25 |
| Drain Couplings | Medium Duty | 6 |
| Adaptor Couplings | Medium Duty | 6 |
| Plumbing Couplings | Medium Duty | 6 |
| Plumbing Fittings | Medium Duty | 6 |
| Flexible Saddles | Medium Duty | 6 |
| Lateral Connectors | Medium Duty | 6 |

## QUALITY AND ASSURANCE STANDARDS

**The highest levels of product quality and customer service have been the cornerstones of Mission Rubber since the Group was founded in the 1950's and this philosophy continues with the new company in the UK.**

Mission Rubber (UK) Ltd. is a subsidiary of Muecher Dichtungen GmbH & Co. KG who has been registered by Lloyd's Register as a company assessed capability, operating a quality management system which complies with the requirements of EN ISO 9001:2000.

The following products are manufactured under licence to the requirements of EN295:Part4:1995 "Vitrified clay pipes and fittings and pipe joints for drains and sewers – Requirements for special fittings, adaptors and compatible accessories".

| | |
|---|---|
| Standard Couplings (Type 2B) | MSC120 – MLC1000 |
| Drain Couplings (Type 1) | MDC115 – MDC225 |
| Adaptor Couplings | 105mm – 420mm |
| Extra Wide Couplings | MSC225W – MSC1000W |
| Bushes | up to 1000mm diameter |

The following products are Kitemarked as complying with the requirements of Water Industry Specification WIS 4-41-01 "Specification for flexible couplings for gravity sewerage and drainage pipes".

WIS 4-41-01
Licence KM 504362

Standard Couplings and Bushes (up to 620mm diameter).

The rubber used in elastomeric components conforms to the requirements of EN681:Part1:200 "Specifications for elastomeric joint rings for pipework and pipelines – drainage".

Full details of our range are available upon request.

Couplings and bushes also comply with the following international Standards.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