



uPVC RISER PIPES & ACCESSORIES



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uPVC RISER PIPES

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uPVC WELL CASING & SCREEN PIPES

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ABOUT TORMAC uPVC RISER PIPES

uPVC riser pipes are yet-another quality product from Tormac. To overcome the disadvantages of traditional Galvanized iron pipes we at Tormac introduced new version of riser pipes in PVC specially designed for borehole submersible pumps. Besides making the installations hassle free the smooth surface of these pipes help greatly to reduce the friction loss. The locking system used while fixing couplers with pipes and the square threads at both the ends ensure better load withstanding capacity and rigidity.

Using suitable adopters, these pipes can be fixed with pumps having both BSP & NPT standard outlets. These pipes are available in different classes which can be selected based on the installation depth and recommended head and load withstanding capacities. As these pipes are anti corrosive in nature and formulated with edible grade materials, highly recommended for installations, where the interest of hygiene is more.

SALIENT FEATURES

- » Anti Corrosive
- » Light Weight and Longer life span.
- » No Electrolytic deposition & prevents scale formation.
- » Specially designed square threads, capable of withstanding heavy loads.
- » Water Discharge is more by 10 to 30% when compared to steel pipes, due to smooth inner surface.
- » Low installation cost and maintenance free.
- » Withstands well with the vagaries of wheather conditions.
- » Special rubber seal is provided at the end of threads to ensure 100% leak proof even at high pressure.

MAJOR APPLICATIONS

- » Borehole Submersible Pumps.
- » Sewage and Drainage disposal.
- » Chilled Water plumbing services.
- » Sanitation.
- » Industrial effluent disposal.
- » Horticulture and green house irrigation system.

SPECIFICATIONS

| PROPERTY | STANDARD TEST METHOD | SPECIFICATION |
|-----------------------------|----------------------|----------------------------|
| Specific Gravity | ASTMD 792 | 1.43 gms/cm ³ |
| Tensile Strength | as per ASTM D 638 | 627 kg/cm ² |
| Flexural Strength | as per ASTM D 638 | 647 kg/cm ² |
| Izod Impact Strength | as per ASTM D 256 | 15 kg - cm/cm ² |
| Charpy Impact Strength | as per ASTM D 256 | 17 kg - cm/cm ² |
| Impact Strength | as per IS 12818:2010 | No Fracture |
| Vicat Softening Temperature | as per ASTM D 1525 | 87.3°C |

COMPARATIVE CHART (TORMAC uPVC PIPES VS MILD STEEL / G.I. PIPES)

| TORMAC UPVC PIPES | MILD STEEL / GALVANIZED STEEL PIPES |
|---|--|
| Specially designed square threads ensure high load holding capacity. Threads do not corrode even for years together operations. | Threads are prone to corrosion and threads do not have layer of Galvanization, and cannot not be used for more than 2 years. |
| Rubber seals are provided with the thread to ensure 100% leak proof even at high pressure. | These threads do not have any seal ring system and cannot withstand even at recommended hydrostatic pressure. |
| Smooth internal surface the head loss friction is very low. | Internal surface is rough and head loss is high. |
| Water discharge is more by 15 - 35%. | Discharge is less. |
| Pipes are 3mtr length, light weight and easy to handle and install. | Pipes are very heavy and installation is difficult. |
| Long life & corrosion resistant. | Life span is very less (2 years maximum) and prone to corrosion. |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

A part of the column pipe, called coupler, which is thicker and forms the female portion of a column pipe is produced separately. It is used with the uPVC column pipe using PALS technology. This process assures that the attached coupler stays in the same position as per TORMAC standards and won't get tightened or loosened either during the installation or during the removal of the pipes.



TYPES :

- CLASS SPL** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)
- CLASS A** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)
- CLASS A+** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 100-210M DEPTH)
- CLASS B** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 160-300M DEPTH)
- CLASS B+** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS UP TO 210M DEPTH)
- CLASS C** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 260-350M DEPTH)
- CLASS C+** (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS UP TO 350M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 32.80 | 33.10 | 3.40 | 3.60 | 1.70 | 2.00 | 3010 | 25 | 125 / 410 |
| CLASS A | 32.80 | 33.10 | 3.60 | 3.90 | 1.70 | 2.00 | 3010 | 25 | 150 / 492 |
| CLASS A+ | 32.80 | 33.10 | 4.00 | 4.30 | 2.00 | 2.30 | 3010 | 25 | 210 / 690 |
| CLASS B | 32.80 | 33.10 | 5.20 | 5.50 | 3.10 | 3.60 | 3010 | 25 | 300 / 984 |

OUTER DIAMETER 1.25" 42 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 41.80 | 42.10 | 3.70 | 4.00 | 2.00 | 2.30 | 3010 | 25 | 125 / 410 |
| CLASS A | 41.80 | 42.10 | 4.50 | 4.80 | 2.40 | 2.70 | 3010 | 25 | 150 / 492 |
| CLASS A+ | 41.80 | 42.10 | 5.00 | 5.30 | 2.90 | 3.20 | 3010 | 20 | 210 / 690 |
| CLASS B | 41.80 | 42.10 | 5.50 | 5.80 | 3.40 | 3.70 | 3010 | 20 | 260 / 853 |
| CLASS C | 41.80 | 42.10 | 7.60 | 7.90 | 4.50 | 4.80 | 3010 | 15 | 350 / 1148 |
| CLASS C+ | 41.80 | 42.10 | 7.80 | 8.10 | 5.30 | 5.60 | 3010 | 15 | 400 / 1312 |

MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 1.5" 48 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 47.80 | 48.10 | 3.80 | 4.10 | 2.30 | 2.60 | 3010 | 20 | 125 / 410 |
| CLASS A | 47.80 | 48.10 | 4.90 | 5.20 | 2.80 | 3.10 | 3010 | 20 | 150 / 492 |
| CLASS A+ | 47.80 | 48.10 | 5.40 | 5.70 | 3.30 | 3.60 | 3010 | 20 | 210 / 690 |
| CLASS B | 47.80 | 48.10 | 6.10 | 6.40 | 4.00 | 4.30 | 3010 | 20 | 260 / 853 |
| CLASS C | 47.80 | 48.10 | 8.30 | 8.60 | 5.20 | 5.50 | 3010 | 15 | 350 / 1148 |
| CLASS C+ | 47.80 | 48.10 | 8.50 | 8.80 | 6.00 | 6.30 | 3010 | 10 | 400 / 1312 |

OUTER DIAMETER 2" 60 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 59.80 | 60.10 | 3.80 | 4.10 | 1.60 | 1.90 | 3010 | 15 | 70 / 230 |
| CLASS A | 59.80 | 60.10 | 4.00 | 4.30 | 1.80 | 2.10 | 3010 | 15 | 90 / 295 |
| CLASS A+ | 59.80 | 60.10 | 5.10 | 5.40 | 2.60 | 2.90 | 3010 | 15 | 130 / 426 |
| CLASS B | 59.80 | 60.10 | 6.40 | 6.70 | 3.50 | 3.80 | 3010 | 10 | 200 / 656 |
| CLASS C | 59.80 | 60.10 | 7.80 | 8.10 | 4.70 | 5.00 | 3010 | 10 | 270 / 886 |
| CLASS C+ | 59.80 | 60.10 | 9.00 | 9.30 | 6.50 | 6.80 | 3010 | 10 | 350 / 1148 |

OUTER DIAMETER 2.5" 75 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|-------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS A+ | 74.70 | 75.20 | 5.10 | 5.40 | 3.20 | 3.50 | 3010 | 10 | 100/328 |
| CLASS B | 74.70 | 75.20 | 6.50 | 6.80 | 4.60 | 4.90 | 3010 | 10 | 160/525 |
| CLASS B+ | 74.70 | 75.20 | 7.90 | 8.20 | 5.20 | 5.50 | 3000 | 7 | 210/688 |
| CLASS C | 74.70 | 75.20 | 9.00 | 9.30 | 6.30 | 6.60 | 3010 | 6 | 260/853 |
| CLASS C+ | 74.70 | 75.20 | 10.80 | 11.10 | 8.30 | 8.60 | 3010 | 5 | 350/1148 |

OUTER DIAMETER 3" 88 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|-------|-------------------------------|-------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS A+ | 87.70 | 88.20 | 5.70 | 6.00 | 3.20 | 3.50 | 3010 | 8 | 110/361 |
| CLASS B | 87.70 | 88.20 | 7.50 | 7.80 | 4.60 | 4.90 | 3010 | 5 | 170/558 |
| CLASS B+ | 87.70 | 88.20 | 8.70 | 9.00 | 6.20 | 6.50 | 3000 | 5 | 210/688 |
| CLASS C | 87.70 | 88.20 | 9.80 | 10.10 | 6.00 | 6.30 | 3010 | 5 | 260/853 |
| CLASS C+ | 87.70 | 88.20 | 12.40 | 12.70 | 9.70 | 10.00 | 3010 | 5 | 350/1148 |

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MEASUREMENT DETAILS FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 4" 113 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|--------|-----------------------------|-------|-------------------------------|-------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS A+ | 112.30 | 113.30 | 6.30 | 6.60 | 3.80 | 4.10 | 3010 | 5 | 100/328 |
| CLASS B | 112.30 | 113.30 | 8.20 | 8.50 | 5.70 | 6.00 | 3010 | 5 | 150/492 |
| CLASS B+ | 112.70 | 113.30 | 10.40 | 10.70 | 7.60 | 7.90 | 3000 | 4 | 210/688 |
| CLASS C | 112.30 | 113.30 | 11.90 | 12.30 | 7.00 | 7.30 | 3010 | 3 | 260/853 |
| CLASS C+ | 112.30 | 113.30 | 15.10 | 15.40 | 12.60 | 12.90 | 3010 | 3 | 350/1148 |

OUTER DIAMETER 5" 140 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|--------|-----------------------------|-------|-------------------------------|-------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS B | 139.70 | 140.20 | 10.30 | 10.60 | 7.60 | 7.90 | 3010 | 3 | 160/525 |
| CLASS B+ | 139.70 | 140.20 | 13.30 | 13.60 | 9.80 | 10.10 | 3000 | 2 | 210/688 |
| CLASS C | 139.70 | 140.20 | 15.00 | 15.60 | 11.90 | 12.20 | 3010 | 2 | 260/853 |
| CLASS C+ | 139.70 | 140.20 | 19.00 | 19.30 | 15.60 | 15.90 | 3010 | 2 | 350/1148 |

OUTER DIAMETER 6" 168 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|--------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS B | 167.70 | 168.20 | 11.8 | 12.2 | 8.8 | 9.2 | 3010 | 2 | 170 / 558 |
| CLASS C | 167.70 | 168.20 | 15 | 15.4 | 10.8 | 11.2 | 3010 | 2 | 260 / 853 |
| CLASS C+ | 167.70 | 168.20 | 19.8 | 20.2 | 15.8 | 16.2 | 3010 | 1 | 350 / 1148 |

LOAD & PRESSURE ABILITY CHART FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 1" 33 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 45.00 | 86.00 | 50.00 | 50.00 | 231.00 | 488 | 700 | 125 / 410 |
| CLASS A | 59.00 | 103.00 | 55.00 | 70.00 | 287.00 | 607 | 900 | 150 / 492 |
| CLASS A+ | 92.00 | 139.00 | 60.00 | 90.00 | 362.00 | 803 | 1200 | 210 / 690 |
| CLASS B | 181.00 | 169.00 | 65.00 | 150.00 | 539.00 | 1191 | 1700 | 300 / 984 |

OUTER DIAMETER 1.25" 42 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 62.00 | 142.00 | 70.00 | 50.00 | 324 | 685 | 1000 | 125 / 410 |
| CLASS A | 89.00 | 163.00 | 75.00 | 70.00 | 397 | 838 | 1200 | 150 / 492 |
| CLASS A+ | 140.00 | 217.00 | 80.00 | 90.00 | 527 | 1112 | 1600 | 210 / 690 |
| CLASS B | 204.00 | 254.00 | 85.00 | 150.00 | 694 | 1462 | 2100 | 260 / 853 |
| CLASS C | 336.00 | 293.00 | 90.00 | 220.00 | 945 | 1990 | 2900 | 350 / 1148 |
| CLASS C+ | 433.00 | 310.00 | 130.00 | 250.00 | 1123 | 2364 | 3400 | 400 / 1312 |

OUTER DIAMETER 1.5" 48 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 79.00 | 185.00 | 100.00 | 50.00 | 414.00 | 876 | 1300 | 125 / 410 |
| CLASS A | 113.00 | 213.00 | 110.00 | 70.00 | 506.00 | 1069 | 1500 | 150 / 492 |
| CLASS A+ | 177.00 | 284.00 | 120.00 | 90.00 | 671.00 | 1416 | 2000 | 210 / 690 |
| CLASS B | 265.00 | 328.00 | 130.00 | 150.00 | 873.00 | 1840 | 2700 | 260 / 853 |
| CLASS C | 432.00 | 388.00 | 140.00 | 220.00 | 1180.00 | 2485 | 3600 | 350 / 1148 |
| CLASS C+ | 537.00 | 407.00 | 160.00 | 250.00 | 1354.00 | 1788 | 2500 | 400 / 1312 |

OUTER DIAMETER 2" 60 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 47.00 | 177.00 | 150.00 | 70.00 | 444 | 940 | 1400 | 70 / 230 |
| CLASS A | 70.00 | 225.00 | 150.00 | 70.00 | 515 | 1091 | 1600 | 90 / 295 |
| CLASS A+ | 128.00 | 306.00 | 160.00 | 90.00 | 685 | 1447 | 2100 | 130 / 426 |
| CLASS B | 259.00 | 428.00 | 170.00 | 150.00 | 1007 | 2124 | 3100 | 200 / 656 |
| CLASS C | 449.00 | 517.00 | 180.00 | 220.00 | 1366 | 2877 | 4100 | 270 / 886 |
| CLASS C+ | 708.00 | 1056.00 | 200.00 | 250.00 | 2214 | 4663 | 6700 | 350 / 1148 |

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SPL - Class Special

LOAD & PRESSURE ABILITY CHART FOR COUPLER MODEL uPVC PIPE

OUTER DIAMETER 2.5" 75 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS A+ | 125.00 | 382.00 | 270.00 | 90.00 | 868 | 1835 | 2700 | 100 / 328 |
| CLASS B | 269.00 | 564.00 | 290.00 | 150.00 | 1273 | 2686 | 3900 | 160 / 525 |
| CLASS B+ | 428.40 | 688.10 | 290.00 | 150.00 | 1563 | 3300 | 5000 | 210 / 688 |
| CLASS C | 629.00 | 795.00 | 310.00 | 220.00 | 1954 | 4116 | 5900 | 260 / 853 |
| CLASS C+ | 1083.00 | 937.00 | 350.00 | 250.00 | 2620 | 5517 | 7900 | 350 / 1148 |

OUTER DIAMETER 3" 88 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS A+ | 189.00 | 575.00 | 375.00 | 90.00 | 1229 | 2596 | 3700 | 110 / 361 |
| CLASS B | 401.00 | 812.00 | 400.00 | 150.00 | 1763 | 3717 | 5300 | 170 / 558 |
| CLASS B+ | 581.00 | 942.00 | 400.00 | 150.00 | 2081 | 4400 | 6300 | 210 / 688 |
| CLASS C | 829.00 | 1100.00 | 450.00 | 220.00 | 2586 | 5474 | 7800 | 260 / 853 |
| CLASS C+ | 1443.00 | 1293.00 | 450.00 | 280.00 | 3466 | 7296 | 10400 | 350 / 1148 |

OUTER DIAMETER 4" 113 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR 76m LENGTH | COLUMN WATER WEIGHT (kg) FOR 76m LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS A+ | 257.00 | 872.00 | 500.00 | 70.00 | 1699 | 3592 | 5200 | 100 / 328 |
| CLASS B | 517.00 | 1215.00 | 500.00 | 180.00 | 2412 | 5090 | 7300 | 150 / 492 |
| CLASS B+ | 906.50 | 1577.10 | 500.00 | 220.00 | 3215 | 6800 | 11000 | 210 / 688 |
| CLASS C | 1359.00 | 1811.00 | 550.00 | 280.00 | 4000 | 8426 | 12000 | 260 / 853 |
| CLASS C+ | 2403.00 | 2118.00 | 550.00 | 280.00 | 5351 | 11265 | 16100 | 350 / 1148 |

OUTER DIAMETER 5" 140 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR 76m LENGTH | COLUMN WATER WEIGHT (kg) FOR 76m LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS B | 888.00 | 1656.00 | 600.00 | 220.00 | 3664 | 7726 | 11000 | 160 / 525 |
| CLASS B+ | 1430.80 | 1689.80 | 600.00 | 250.00 | 4682 | 10000 | 15000 | 210 / 688 |
| CLASS C | 2154.00 | 2756.00 | 650.00 | 280.00 | 5840 | 12301 | 17500 | 260 / 853 |
| CLASS C+ | 3792.00 | 3252.00 | 650.00 | 300.00 | 7994 | 16825 | 24000 | 350 / 1148 |

OUTER DIAMETER 6" 168 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS B | 1325.00 | 3019.00 | 750.00 | 350.00 | 5443 | 11483 | 16400 | 170 / 558 |
| CLASS C | 2397.00 | 4374.00 | 750.00 | 450.00 | 7972 | 16793 | 24000 | 260 / 853 |
| CLASS C+ | 4002.00 | 5112.0 | 800.00 | 500.00 | 10413 | 21931 | 31500 | 350 / 1148 |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

MEASUREMENT DETAILS FOR BELL MOUTH MODEL uPVC PIPE

In Bell Mouth column pipes, instead of a separate portion on coupler, one end of the column pipe is formed in the shape of a bell mouth, with female threads, to receive the entire length of the male threads of the next column pipe. The weight bearing capacity of this column pipes are lesser compared to that of a coupler type column pipes.



TYPES :

CLASS SPL (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)

CLASS A (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)

CLASS A+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 100-210M DEPTH)

CLASS B (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 160-300M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 32.80 | 33.10 | 3.40 | 3.60 | 1.70 | 2.00 | 3010 | 25 | 125 / 410 |
| CLASS A | 32.80 | 33.10 | 3.60 | 3.90 | 1.70 | 2.00 | 3010 | 25 | 150 / 492 |
| CLASS A+ | 32.80 | 33.10 | 4.00 | 4.30 | 2.00 | 2.30 | 3010 | 25 | 210 / 690 |
| CLASS B | 32.80 | 33.10 | 5.20 | 5.50 | 3.10 | 3.40 | 3010 | 25 | 300 / 984 |

OUTER DIAMETER 1.25" 42 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 41.80 | 42.10 | 3.70 | 4.00 | 2.00 | 2.30 | 3010 | 25 | 125 / 410 |
| CLASS A | 41.80 | 42.10 | 4.50 | 4.80 | 2.40 | 2.70 | 3010 | 25 | 150 / 492 |
| CLASS A+ | 41.80 | 42.10 | 5.00 | 5.30 | 2.90 | 3.20 | 3010 | 20 | 210 / 690 |
| CLASS B | 41.80 | 42.10 | 5.50 | 5.80 | 3.40 | 3.70 | 3010 | 20 | 260 / 853 |

OUTER DIAMETER 1.5" 48 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 47.80 | 48.10 | 3.80 | 4.10 | 2.30 | 2.60 | 3010 | 20 | 125 / 410 |
| CLASS A | 47.80 | 48.10 | 4.90 | 5.20 | 2.80 | 3.10 | 3010 | 20 | 150 / 492 |
| CLASS A+ | 47.80 | 48.10 | 5.40 | 5.70 | 3.30 | 3.60 | 3010 | 15 | 210 / 690 |
| CLASS B | 47.80 | 48.10 | 6.10 | 6.40 | 4.00 | 4.30 | 3010 | 15 | 260 / 853 |

OUTER DIAMETER 2" 60 mm (OD)

| PIPE TYPE | OUTER DIAMETER (mm) | | WALL THICKNESS AT ENDS (mm) | | WALL THICKNESS AT CENTER (mm) | | EFFECTIVE LENGTH OF PIPE (mm) | NO. OF PIPES PER BUNDLE | Installation Depth in Meter / Feet |
|-----------|---------------------|-------|-----------------------------|------|-------------------------------|------|-------------------------------|-------------------------|------------------------------------|
| | Min | Max | Min | Max | Min | Max | | | |
| CLASS SPL | 59.80 | 60.10 | 3.90 | 4.20 | 1.70 | 2.00 | 3010 | 15 | 70 / 230 |
| CLASS A | 59.80 | 60.10 | 4.00 | 4.30 | 1.80 | 2.10 | 3010 | 15 | 90 / 295 |
| CLASS A+ | 59.80 | 60.10 | 5.10 | 5.40 | 2.60 | 2.90 | 3010 | 10 | 130 / 427 |
| CLASS B | 59.80 | 60.10 | 6.40 | 6.70 | 3.90 | 4.20 | 3010 | 10 | 200 / 656 |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

LOAD & PRESSURE ABILITY CHART FOR BELL MOUTH MODEL uPVC PIPE

TYPES :

CLASS SPL (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 70-125M DEPTH)

CLASS A (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 90-150M DEPTH)

CLASS A+ (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 130-210M DEPTH)

CLASS B (SUITABLE FOR SUBMERSIBLE PUMP INSTALLATIONS 200-300M DEPTH)

OUTER DIAMETER 1" 33 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 40.00 | 86.00 | 50.00 | 50.00 | 227 | 455 | 682 | 125 / 410 |
| CLASS A | 51.00 | 103.00 | 55.00 | 70.00 | 281 | 563 | 844 | 150 / 492 |
| CLASS A+ | 82.00 | 139.00 | 60.00 | 90.00 | 372 | 745 | 1117 | 210 / 689 |
| CLASS B | 167.00 | 169.00 | 65.00 | 150.00 | 553 | 1107 | 1660 | 300 / 984 |

OUTER DIAMETER 1.25" 42 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 56.00 | 142.00 | 20.00 | 50.00 | 321 | 641 | 962 | 125 / 410 |
| CLASS A | 78.00 | 163.00 | 25.00 | 70.00 | 388 | 776 | 1165 | 150 / 492 |
| CLASS A+ | 125.00 | 217.00 | 80.00 | 90.00 | 515 | 1029 | 1544 | 210 / 689 |
| CLASS B | 197.00 | 254.00 | 85.00 | 150.00 | 689 | 1378 | 2066 | 260 / 853 |

OUTER DIAMETER 1.5" 48 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 72.00 | 185.00 | 100.00 | 50.00 | 411 | 821 | 962 | 125 / 410 |
| CLASS A | 103.00 | 213.00 | 110.00 | 70.00 | 498 | 997 | 1165 | 150 / 492 |
| CLASS A+ | 163.00 | 284.00 | 120.00 | 90.00 | 660 | 1321 | 1544 | 210 / 689 |
| CLASS B | 235.00 | 328.00 | 130.00 | 150.00 | 847 | 1694 | 2066 | 260 / 853 |

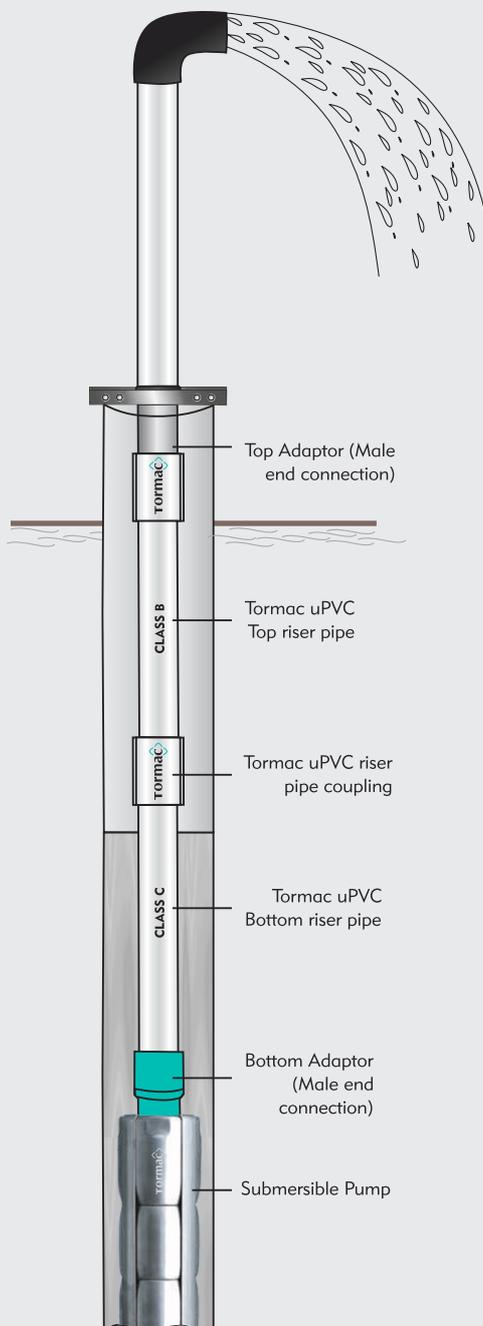
OUTER DIAMETER 2" 60 mm (OD)

| PIPE TYPE | PIPE WEIGHT (kg) APPROX FOR LENGTH (M) | COLUMN WATER WEIGHT (kg) FOR LENGTH (M) | WEIGHT OF PUMPSET (kg) APPROX | CABLE WEIGHT (kg) APPROX | TOTAL WEIGHT (kg) | MAX. LOAD ABILITY (kg) FOR PULLING WITH CHAIN PULLY OR CRANE | ULTIMATE BREAKING LOAD (kg) | Installation Depth in Meter / Feet |
|-----------|--|---|-------------------------------|--------------------------|-------------------|--|-----------------------------|------------------------------------|
| CLASS SPL | 40.00 | 177.00 | 150.00 | 70.00 | 440 | 880 | 1321 | 70 / 230 |
| CLASS A | 57.00 | 225.00 | 150.00 | 70.00 | 506 | 1012 | 1518 | 90 / 295 |
| CLASS A+ | 110.00 | 306.00 | 160.00 | 90.00 | 671 | 1342 | 2012 | 130 / 426 |
| CLASS B | 232.00 | 428.00 | 160.00 | 150.00 | 984 | 1968 | 2951 | 200 / 656 |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

PIPE SELECTION

The riser pipes must be selected from the types available, so that the pump delivery pressure does not exceed the permissible hydrostatic pressure. In the column, for every 10m above the pump, there is a pressure drop of 1 kg/cm². If the pump delivery pressure is high, two different type pipes of the same size can be used, instead of using same type of pipes alone for the entire depth, to make it cost effective. CLASS C type pipes can be used upto required length starting from pump and CLASS A / CLASS A+ / CLASS B type pipes can be used for the remaining length.



GENERAL INSTRUCTION & INSTALLATION PROCEDURE

Equipments required for Installation:

- » Tri Pod.
- » Mild steel chain.
- » Pipe wrench.
- » Chain Pulley.
- » Clamp sets.
- » Adjustable Spanner & other required fittings.

Pre-Installation Procedure

- » Do not use Oil / grease / Solvent on the pipe threads.
- » Clean the threads with plain water before use.
- » Check the condition of 'O' ring before use.
- » Check the pipe outlet size of the pipe are correct as per your requirements.

Installation Procedure

- » Connect the male end of the bottom adaptor firmly to the pump discharge housing using a pipe wrench.
- » Connect the pipe to the female end of bottom adaptor.
- » Ensure the both end of pipes are cleaned with water.
- » Pipe can be tightened with hand by pouring water on pipe threads for lubrication and for better grip pipe wrench can be used to tighten / hold the pipes.
- » Submersible pump assembly cable to be tied in regular intervals along with the riser pipes, for securing the cable from getting damaged.
- » At the time of lowering the pump assembly into bore hole the C-clamp must be fastened only to the pipe portion marked as "CLAMP HERE".
- » While connecting other pipes, ensure pipe wrench should not be used on the pipe to hold / support.
- » Ensure the riser pipes should not over tighten. (While tightening & removing the permanent thread lock should not be disturbed).
- » Once the top riser pipe reaches the ground level, connect the top adaptor (Male end connection). After installing the riser pipes, regular plumbing accessories can be used to deliver the water to the required delivery level.

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PUMP DELIVERY PRESSURE

Pump delivery pressure is the maximum delivery head of the pump. In the pump performance curves the value of head at which the flow becomes nil (zero), is the max. head in metres. Hence the max head of the pump must not exceed the recommended permissible hydrostatic pressure of the pipes as mentioned in the following table.

Permissible hydrostatic Pressure for Coupler Model uPVC Pipe

(10m = 1kg/cm²)

| PIPE TYPE | 1" (25mm) | 1¼" (32mm) | 1½" (40mm) | 2" (50mm) | 2½" (65mm) | 3" (80mm) | 4" (100mm) | 5" (140mm) | 6" (165mm) |
|-----------|-------------------------|-------------------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| CLASS SPL | 12.5 kg/cm ² | 12.5 kg/cm ² | 12.5 kg/cm ² | 7 kg/cm ² | - | - | - | - | - |
| CLASS A | 15 kg/cm ² | 15 kg/cm ² | 15 kg/cm ² | 9 kg/cm ² | - | - | - | - | - |
| CLASS A+ | 21 kg/cm ² | 21 kg/cm ² | 21 kg/cm ² | 13 kg/cm ² | 10 kg/cm ² | 11 kg/cm ² | 10 kg/cm ² | - | - |
| CLASS B | 30 kg/cm ² | 26 kg/cm ² | 26 kg/cm ² | 20 kg/cm ² | 16 kg/cm ² | 17 kg/cm ² | 15 kg/cm ² | 16 kg/cm ² | 17 kg/cm ² |
| CLASS B+ | - | - | - | - | 21 kg/cm ² | 21 kg/cm ² | 21 kg/cm ² | 21 kg/cm ² | - |
| CLASS C | - | 35 kg/cm ² | 35 kg/cm ² | 27 kg/cm ² | 26 kg/cm ² |
| CLASS C+ | - | 40 kg/cm ² | 40 kg/cm ² | 35 kg/cm ² | 35 kg/cm ² | 35 kg/cm ² | 35 kg/cm ² | 35 kg/cm ² | 35 kg/cm ² |

Permissible hydrostatic Pressure for Bell Mouth Model uPVC Pipe

(10m = 1kg/cm²)

| PIPE TYPE | 1" (25mm) | 1¼" (32mm) | 1½" (40mm) | 2" (50mm) |
|-----------|-------------------------|-------------------------|-------------------------|-----------------------|
| CLASS SPL | 12.5 kg/cm ² | 12.5 kg/cm ² | 12.5 kg/cm ² | 7 kg/cm ² |
| CLASS A | 15 kg/cm ² | 15 kg/cm ² | 15 kg/cm ² | 9 kg/cm ² |
| CLASS A+ | 21 kg/cm ² | 21 kg/cm ² | 21 kg/cm ² | 13 kg/cm ² |
| CLASS B | 30 kg/cm ² | 26 kg/cm ² | 26 kg/cm ² | 20 kg/cm ² |

* Installation depth depends on recommended permissible hydrostatic pressure rating of the pipes and refer pump delivery pressure chart for more details.

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ACCESSORIES

Bottom adaptor : This is a metal accessory which is used to connect the first piece of uPVC column Pipe to the submersible pump. As explained, to enable higher load bearing capacity, Tormac column pipes are equipped with square threads. Whereas, the submersible pumps are generally with V threads. Since, the joint cannot be made due to various threads and a pitch, an adaptor is used.

The female portion of the bottom adaptor is square threaded and the male portion is V threaded. We supply these adaptors in Cast Iron, Mild Steel and Stainless steel 304 grades.



Top adaptor : This is a metal accessory, which is used to connect the last piece of uPVC column pipe to the outlet / discharge bend. As explained, to enable higher load bearing capacity, Tormac column pipes are equipped with square threads. Generally, the outlet / discharge bend, are with V threads. Since, the joint cannot be made due to various threads and a pitch, an adaptor is used.

The male portion of the top adaptor is square threaded and the female portion is V threaded. We supply these adaptors in Cast Iron, Mild Steel and Stainless steel 304 grades.



Expander / Reducer : If the customer has a requirement of usage of an uPVC column pipe higher or lower in size with respect to the pump outlet, an Expander or Reducer is used, respectively. These are a variant of bottom adaptors and are provided according to customer request.



Pump Guard : In the entire length of the column, the first joint of column pipe with the submersible pump is the weakest one. Tormac uPVC column pipes are produced considering this factor. Even though, as an extra precautionary care, a pump guard is recommended as an accessory.

A Pump guard set consists of a short length pipe of the same size and variant as the other column pipes, along with two stainless steel rods, two flanges, nuts and cotter pins. When a pump guard is used, even if a fracture happens at the first joint, the pump will not slip into the borehole and it would be easy to retrieve the pump.



Available Size

| | BOTTOM ADAPTOR | TOP ADAPTOR | EXPANDER / REDUCER | PUMP GUARD |
|-------|----------------|-------------|--------------------|------------|
| Sizes | 1" | 1" | 1½"x1¼" | 1" |
| | 1¼" | 1¼" | 2"x1½" | 1¼" |
| | 1½" | 1½" | 2½"x2" | 1½" |
| | 2" | 2" | 3"x2½" | 2" |
| | 2½" | 2½" | 4"x3" | 2½" |
| | 3" | 3" | 5"x4" | 3" |
| | 4" | 4" | | 4" |
| | 5" | 5" | | 5" |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

uPVC WELL CASING & SCREEN PIPES



uPVC WELL CASING AND SCREEN PIPES AS PER IS 12818 - 2010

The foremost component required for any well is its Casing and screening pipes. Right decision in selection and installation of this components prevents the water well / borehole from the unwanted destruction which helps to get perpetual source of pure water.

Earlier, metal pipes and screens were used instead of casing and screening pipes which leads to corrosion, early failure and worsen the condition of screens. Due to this bacterium formation may occur which leads the water source to get polluted and results in well abandonment.

When the depth gets increasing ground water system will be disrupted by sands, gravels or high fractured rocks and weathered bedrock aquifers. In certain case groundwater must refrain from the aquifer strata and eventually the ground water must flow ease into the borehole. This can be achieved by the right and good screen pipe selection.

FEATURES & BENEFITS

- **Chemical properties** - Non corrosive, ensures longer life cycle.
- **Physical properties** - Lighter in weight than conventional metal pipes, easy handling, transportation and installation.
- **Economical** - Lesser in cost than other alternates, cost of transportation, handling and installation is lesser, being lighter in weight no cranes, welding machines or diesel Genset are required for installation.
- **Longer life** - Life cycle more than 30 years, saves replacement and replenishment costs.
- **Anti corrosive & Non-conductive** - Excellent life avoiding electro chemical reactions.
- **Ensuring water quality** - uPVC doesn't impart any colour, odour or taste.
- **Stiffness and strength** - Excellent mechanical properties thus is capable of withstanding the hydraulic pressure the pipes are subjected to during construction of well.
- **Convenient and reliable** - Provides easy and stronger joints. Tormac uPVC Casing pipes have trapezoidal threads which provides easy and strong joints. uPVC Screen pipes facilitate optimum performance & safety by keeping the the gravel pack & other foreign substances out of the well uPVC Screen pipes has horizontal slots which enables laminar flow into the well ensuring higher permeability & reducing well entrance losses, thus saving pumping energy and offer higher yields.

DIMENSIONAL DETAILS FOR CASING PIPE

Dimensions of Shallow Well Casing Pipes (CS) - for Well Depth upto 80 Meters

| Pipe Size in Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|-------------------------------|----------------------------------|--------|--|--------|--|-------------------|-------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 4 / 100 | 113.00 | 113.30 | 112.90 | 113.40 | 119.00 | 3.90 | 4.60 |
| 4.5 / 115 | 125.00 | 125.30 | 124.90 | 125.40 | Non ISI | 4.20 | 4.80 |
| 5 / 125 | 140.00 | 140.40 | 139.90 | 140.50 | Non ISI | 5.20 | 6.00 |
| 6 / 150 | 165.00 | 165.40 | 164.60 | 165.60 | 174.00 | 5.70 | 6.50 |
| 6.5 / 180 | 180.00 | 180.50 | 179.80 | 180.60 | Non ISI | 7.00 | 7.80 |
| 7 / 175 | 200.00 | 200.50 | 199.60 | 200.60 | 211.00 | 7.00 | 7.80 |
| 8 / 200 | 225.00 | 225.50 | 224.50 | 225.80 | 238.00 | 7.60 | 8.80 |
| 10 / 250 | 280.00 | 280.50 | 279.40 | 280.80 | 292.00 | 9.60 | 11.00 |
| 12 / 300 | 330.00 | 330.60 | 329.30 | 331.00 | 346.00 | 11.20 | 13.30 |

Dimensions of Medium Well Casing Pipes (CM) - for Well Depth between 80-250 Meters

| Pipe Size in Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|-------------------------------|----------------------------------|--------|--|--------|--|-------------------|-------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 1.25 / 35 | 42.00 | 42.20 | 41.90 | 42.30 | 46.00 | 3.50 | 4.00 |
| 1.5 / 40 | 48.00 | 48.20 | 48.00 | 48.30 | 52.00 | 3.50 | 4.00 |
| 2 / 50 | 60.00 | 60.20 | 59.90 | 60.30 | 65.00 | 4.00 | 4.60 |
| 3 / 80 | 88.00 | 88.30 | 88.00 | 88.40 | 94.00 | 4.00 | 4.60 |
| 4 / 100 | 113.00 | 113.30 | 112.90 | 113.40 | 120.00 | 5.00 | 5.70 |
| 4.5 / 115 | 125.00 | 125.30 | 124.90 | 125.40 | 132.00 | 5.00 | 5.70 |
| 5 / 125 | 140.00 | 140.40 | 139.90 | 140.50 | 150.00 | 6.50 | 7.30 |
| 6 / 150 | 165.00 | 165.40 | 164.80 | 165.60 | 178.00 | 7.50 | 8.50 |
| 6.5 / 180 | 180.00 | 180.50 | 179.80 | 180.60 | Non ISI | 8.00 | 8.80 |
| 7 / 175 | 200.00 | 200.50 | 199.80 | 200.60 | 215.00 | 8.80 | 9.80 |
| 8 / 200 | 225.00 | 225.50 | 224.80 | 225.80 | 243.00 | 10.00 | 11.20 |
| 8.5 / 240 | 240.00 | 240.50 | 239.50 | 240.80 | 252.00 | 10.40 | 11.50 |
| 10 / 250 | 280.00 | 280.50 | 279.60 | 280.80 | 298.00 | 12.50 | 14.00 |
| 12 / 300 | 330.00 | 330.60 | 329.30 | 331.00 | 352.00 | 14.50 | 14.20 |

Dimensions of Deep Well Casing Pipes (CD) - for Well Depth upto 400 Meters

| Pipe Size in Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|-------------------------------|----------------------------------|--------|--|--------|--|-------------------|-------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 4 / 100 | 113.00 | 113.30 | 112.80 | 113.40 | 125.00 | 7.00 | 7.90 |
| 4.5 / 115 | 125.00 | 125.30 | 124.90 | 125.40 | 137.00 | 7.50 | 8.50 |
| 5 / 125 | 140.00 | 140.40 | 139.70 | 140.50 | 152.00 | 8.00 | 9.00 |
| 6 / 150 | 165.00 | 165.40 | 164.60 | 165.60 | 180.00 | 9.50 | 10.70 |
| 6.5 / 180 | 180.00 | 180.50 | 179.80 | 180.60 | Non ISI | 10.20 | 11.40 |
| 7 / 175 | 200.00 | 200.50 | 199.60 | 200.60 | 217.00 | 11.80 | 13.60 |
| 8 / 200 | 225.00 | 225.50 | 224.50 | 225.80 | 247.00 | 13.00 | 14.80 |
| 8.5 / 240 | 240.00 | 240.50 | 239.50 | 240.80 | Non ISI | 11.50 | 12.50 |
| 10 / 250 | 280.00 | 280.50 | 279.40 | 280.80 | 304.00 | 16.00 | 17.60 |
| 12 / 300 | 330.00 | 330.60 | 329.30 | 331.00 | 359.00 | 19.00 | 21.00 |

Specifications and illustrations are subject to change without any prior notice for continuous technical improvement.

DIMENSIONAL DETAILS FOR SCREEN PIPE

Dimensions of Ribbed Medium Well Screen (RMS) Pipes

| Pipe Size Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|----------------------------------|-------------------------------------|-------|---|-------|--|-------------------|------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 1.25 / 35 | 46 | 46.2 | 45.9 | 46.3 | 50 | 3.5 | 4 |
| 1.5 / 40 | 52 | 52.2 | 51.9 | 52.3 | 56 | 3.5 | 4 |
| 2 / 50 | 64 | 64.2 | 63.9 | 64.3 | 69 | 4 | 4.6 |
| 3 / 50 | 92 | 92.3 | 91.8 | 92.4 | 98 | 4 | 4.6 |
| 4 / 100 | 117 | 117.3 | 116.8 | 117.4 | 124 | 5 | 5.7 |
| 4.5 / 115 | 129 | 129.3 | 128.8 | 129.4 | 136 | 5 | 5.7 |
| 5 / 125 | 144 | 144.4 | 143.7 | 144.5 | 154 | 6.5 | 7.3 |
| 6 / 150 | 169 | 169.4 | 168.6 | 169.6 | 182 | 7.5 | 8.5 |
| 7 / 175 | 204 | 204.5 | 203.6 | 204.6 | 219 | 8.8 | 9.8 |
| 8 / 200 | 229 | 229.5 | 228.5 | 229.8 | 247 | 10 | 11.2 |
| 10 / 250 | 284 | 284.5 | 283.4 | 284.8 | 302 | 12.5 | 14 |
| 12 / 300 | 334 | 334.6 | 333.4 | 335 | 356 | 14.5 | 16.2 |

Dimensions of Ribbed Deep Well Screen (MSP) Pipes

| Pipe Size Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|----------------------------------|-------------------------------------|-------|---|-------|--|-------------------|------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 4 / 100 | 117 | 117.3 | 116.8 | 117.4 | 129 | 7 | 7.9 |
| 4.5 / 115 | 129 | 129.3 | 128.8 | 129.4 | 141 | 7.5 | 8.5 |
| 5 / 125 | 144 | 144.4 | 143.7 | 144.5 | 156 | 8 | 9 |
| 6 / 150 | 169 | 169.4 | 168.6 | 169.6 | 184 | 9.5 | 10.7 |
| 7 / 175 | 204 | 204.5 | 203.6 | 204.6 | 221 | 11.8 | 13.6 |
| 8 / 200 | 229 | 229.5 | 228.5 | 229.8 | 251 | 13 | 14.8 |
| 10 / 250 | 284 | 284.5 | 283.4 | 284.8 | 309 | 16 | 17.6 |
| 12 / 300 | 334 | 334.6 | 333.3 | 335 | 363 | 19 | 21 |

Dimensions of Plain Medium Well Screen (DSP) Pipes

| Pipe Size Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|----------------------------------|-------------------------------------|-------|---|-------|--|-------------------|------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 8 / 200 | 225 | 225.5 | 224.5 | 225.8 | 243 | 10 | 11.2 |
| 10 / 250 | 280 | 280.5 | 279.4 | 280.8 | 298 | 12.5 | 14 |
| 12 / 300 | 330 | 330.6 | 329.3 | 331 | 352 | 14.5 | 16.2 |

Dimensions of Plain Deep Well Screen (PDS) Pipes

| Pipe Size Inches / mm (DN) | Mean Outside Diameter of Pipe mm | | Outside diameter of pipe at any point mm | | Mean outside diameter over connection mm | Wall Thickness mm | |
|----------------------------------|-------------------------------------|-------|---|-------|--|-------------------|------|
| | Min. | Max. | Min. | Max. | Max. | Min. | Max. |
| 8 / 200 | 225 | 225.5 | 224.5 | 225.8 | 247 | 13 | 14.8 |
| 10 / 250 | 280 | 280.5 | 279.4 | 280.8 | 304 | 16 | 17.6 |
| 12 / 300 | 330 | 330.6 | 329.3 | 331 | 359 | 19 | 21 |

INSTALLATION PROCEDURE

- Sort out the pipe assembly on the ground.
- Fix the centring guide on the pipes once in each 15 meters (least), just underneath the neck of the attachment, with the open end of the centering guides confronting upwards while bringing down.
- Always utilize a plain packaging channel (sand trap) for the first pipe to be brought down, with a conical end cap (Bullnose) blanking the nozzle end of the pipe. Fill this pipe with water or penetrating liquid before bringing down into the well.
- Wash the reamed borehole altogether with crisp penetrating liquid (Bentonite Solution) for 40-45 minutes from the base, keeping the particular gravity of the boring liquid to underneath 1.4. This will anticipate overwhelming sedimentation at the base of the borehole and furthermore simple bringing down the assembly.
- To get better outcomes, guarantee that the reamed borehole is something like 15 to 20cms more than the outside measurement of the casing pipe.
- The sand trap is the lowest pipe in a tube well and is the first to be chosen. Fit this pipe with an end plug (cap) and focusing guide.
- Lower the sand trap into the borehole and hold with a split clip with the socketed end confronting upward.
- The following pipe, which is either a screen pipe or a plain pipe (contingent upon lithology of well) is fitted to the sand trap by screwing them together.
- Jointing of pipes should be possible either by belt torque or with manila rope. Never utilize a chain torque. Clean the threads to expel mud or burrs utilizing wire brush. Cleanser might be utilized to lubricate the joints. Evade grease or waste oil.
- Fit the socketed end of the following pipe (which can be a screen/plain casing) with the fitting cap.
- Connect the lifting cap safely with the wire rope of the drilling frame.
- Use winch of drilling machine to lift the threaded pipe string.
- This pipe string is jointed to the pipe effectively brought down into the borehole.
- Centre the assembled pipe string and allow it to slip into the borehole by discharging the split cinch, Fill the pipe with water or mud solution to equalize pressure.
- Repeat the task till every one of the casings and screens are brought down according to the lithology of the well. The time expected to make each joint is under 5 minutes.
- Lowering time can be decreased by jointing the casing and screens on the ground to make extra lengths. Do this effectively according to lithology of well to stay away from wrong arrangement of screens in the bore well.
- Do not set the brought down pipe assembly at the base of the borehole. Guarantee no less than 10 feet of free bore beneath the sand trap. This helps the casing and screen pipes to remain hanging and accomplish a vertical installation.
- Centring guides should be fixed at the very least interim of 1.5 meters to guarantee uniform gravel packing around the casing and screen pipes.



T H E P O W E R B E H I N D T H E F O R C E

Naargo Industries Private Limited, one of the leading manufacturers of latest state of art, large range of pumps and motors, is managed by veterans who are in the pump industry for almost half a century. The products are employed in various applications like irrigation, domestic, civil construction, de-watering etc; The Company has a strong distribution network in India for sales & service and a strong global presence.

Quality is the key factor in Naargo's products. The expansive infrastructure and environment accredited with ISO 9001 quality certification, latest engineering softwares, high-tech machinery, futuristic pumping technology and high caliber workforce facilitate the production of flawless and efficient products on par with international standards under the brand name of "Tormac". The well equipped R & D wing stays alive to the changing global trends and comes out with viable solutions for innovative product development and upgradation.

The Products currently available include Stainless Steel Submersible Pumps, 4" Thermoplastic Submersible Pumps, 6" & 8" Cast Iron Submersible Pumps, Submersible Motors, Submersible cables, uPVC pipes, and control panels, Centrifugal Pumps, Inline Booster Pumps, Jet Self-priming Pumps Sewage pumps, Induction Pumps and Peripheral Pumps.

The power, performance and endurance of the products backed by the uncompromising teamwork and value systems will certainly propel the company's growth towards new horizons in the pump industry.

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