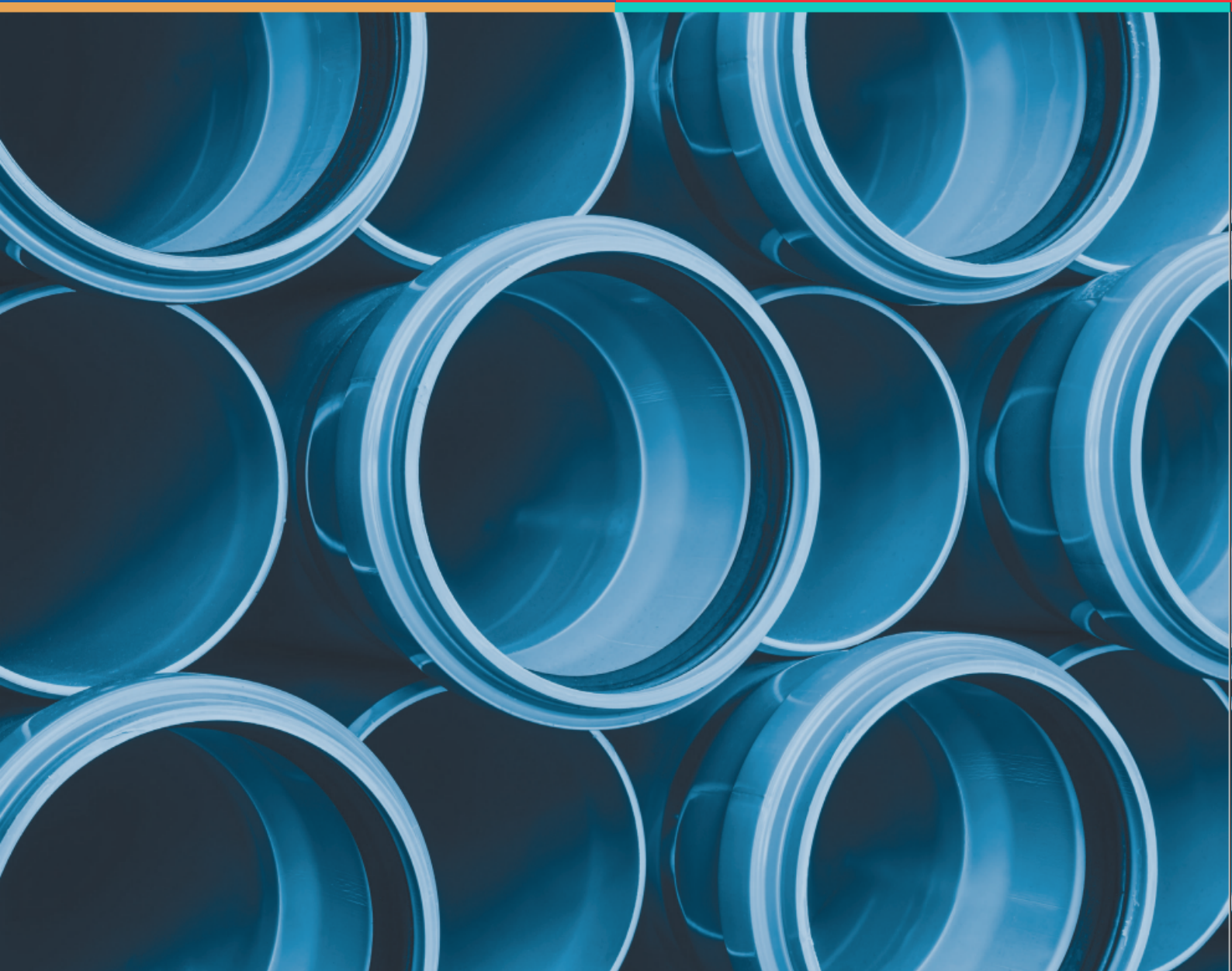


بروج نجد  
Borouge Najd

PP-MDS  
Product Catalogue



borougenajd PP-MD SILENT

---

## ABOUT US

Borouge Najd is a leading Saudi Arabian plastic pipe manufacturer since our establishment in 2020 we have constantly evolved to meet the requirements of our most demanding customers. Our aim is to provide sophisticated and diverse pipe solutions for hot and cold water applications, telecommunication networks, sewage and drainage systems together with water and gas infrastructure.



We are a certified to ISO Quality Management Systems organization and all our products comply with the appropriate World International (ISO) Standards.

Our products are tested extensively in our state-of-the-art laboratory, to ensure that the quality and performance are continuously maintained.

Our success is the result of the company's persistent commitment to continuous innovation and investment in technology, in the relentless pursuit of providing quality products and services. Today, we are pleased to offer a wide range of plastic products, divided into four categories:

// WE DESIGN, DEVELOP, MANUFACTURE  
AND PROVIDE INNOVATIVE PIPE  
SOLUTIONS THAT BEST MEET THE  
NEEDS OF OUR CUSTOMERS //

# CHARACTERISTICS OF Borouge Najd PP-MD ULTRA SILENT PIPE SYSTEMS

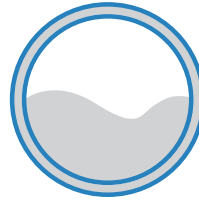
|                                 |  |
|---------------------------------|--|
| <b>Material</b>                 | PP-MD mineral reinforced ultra silent pipe and fittings  |
| <b>Installation</b>             | Underground, inside and outside buildings  |
| <b>Area of applications</b>     | <p>Drainage pipes in buildings and above ground installation</p> <ul style="list-style-type: none"> <li>• Inside buildings (B) : DN40 to DN50</li> <li>• Inside and under the buildings (BD) : ≥DN 75</li> </ul>   |
| <b>Colors</b>                   | <p>External and inner layers:  RAL 5012</p> <p>Middle layer:  Light Blue</p>  |
| <b>Noise Transmission Level</b> | <p>silent pipe: 0.5 l/s 14 dB; 1.0 l/s 16 dB; 2.0 l/s 16 dB; 4.0 l/s 18 dB</p> <p>ultra silent pipe: 0.5 l/s 10 dB; 1.0 l/s 12 dB; 2.0 l/s 12 dB; 4.0 l/s 14 dB</p>  |
| <b>Ring Stiffness</b>           | > 6kN/m <sup>2</sup>   |
| <b>Fire Behaviour</b>           | <ul style="list-style-type: none"> <li>• B<sub>2</sub> DIN 4102-1</li> <li>• E EN 13501-1</li> </ul>   |
| <b>Pipe Technology</b>          | <p>3-layers technology</p> <ul style="list-style-type: none"> <li>• <b>Outer layer:</b> High stiffness &amp; impact resistant PP</li> <li>• <b>Middle layer:</b> High stiffness mineral reinforced soundproof</li> <li>• <b>Inner layer:</b> Chemical &amp; abrasion resistant PP</li> </ul>   |
| <b>Connection</b>               | Rubber ring joint socket with factory-installed 3 lip innovative sealing gasket  |
| <b>Gasket Technology</b>        | <p>3-lips innovative design of rubber sealing gasket.</p> <ul style="list-style-type: none"> <li>• Tensioning and retaining lip prevent dirt build-up between the pipe wall and the rubber gasket and stop the rubber gasket from being pressed out or rolling during push fit connection.</li> <li>• Wiping lip keep back any dirt on the pipe during the connection.</li> <li>• Sealing lip assures a thing long-term connection.</li> </ul> |
| <b>Options</b>                  | UV resistant   |

# ADVANTAGES OF Borouge Najd PP-MD SYSTEMS



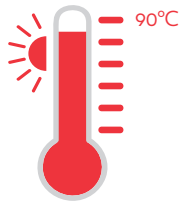
## Ultra-Silent

Noise transmission level of 12 dB at a water flow of 2/l/s

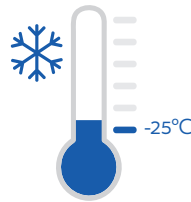


## High stiffness

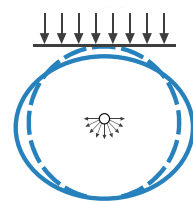
due to 3-layer Borouge technology



High temperature resistance up to 90°C (peak 95°C)



Operation and installation at low temperatures (-25°C)



Resistance to external loads due to improved elasticity



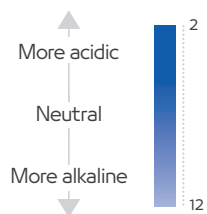
Resistant to ground movement due to innovative 3-lip design of rubber sealing gasket



Leak free system due to 3-lip innovative rubber sealing gasket



Fast and easy installation (push-fit) and contamination free due to the innovative design of the rubber sealing gasket



Chemical resistance ranging from pH2 to pH12



Corrosion free system



100% recyclable and sustainable systems

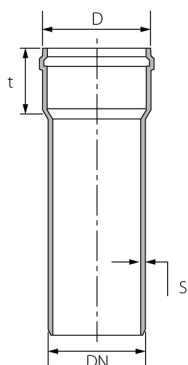
# PRODUCT RANGE

## Pipes

Our mineral reinforced silent and ultra silent polypropylene pipes range in size from DN 32mm to 200mm.

**Silent PP-MD pipes** with push-fit socket and 3-lip rubber sealing ring

**Material:** mineral reinforced polypropylene

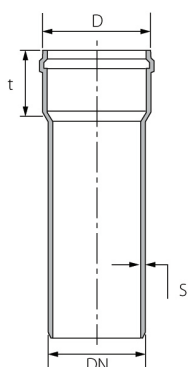


| Code | Noise Transmission Level* dB | DN (mm) | D (mm) | S (mm) | t (mm) | Pipe length (m) |
|------|------------------------------|---------|--------|--------|--------|-----------------|
|      | 16                           | 32      | 45     | 3.4    | 42     | 6               |
|      | 16                           | 40      | 55     | 3.4    | 44     | 6               |
|      | 16                           | 50      | 65     | 3.4    | 46     | 6               |
|      | 16                           | 75      | 90     | 3.4    | 49     | 6               |
|      | 16                           | 90      | 107    | 3.4    | 54     | 6               |
|      | 16                           | 110     | 130    | 3.4    | 65     | 6               |
|      | 16                           | 125     | 149    | 3.9    | 72     | 6               |
|      | 16                           | 160     | 186    | 4.9    | 75     | 6               |
|      | 16                           | 200     | 228    | 6.2    | 108    | 6               |

\*at a water flow of 2l/s

**Ultra silent PP-MD pipes** with push-fit socket and 3-lip rubber sealing ring

**Material:** mineral reinforced polypropylene



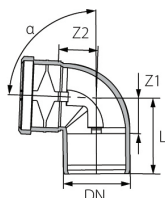
| Code | Noise Transmission Level* dB | DN (mm) | D (mm) | S (mm) | t (mm) | Pipe length (m) |
|------|------------------------------|---------|--------|--------|--------|-----------------|
|      | 12                           | 32      | 45     | 3.4    | 42     | 6               |
|      | 12                           | 40      | 55     | 3.4    | 44     | 6               |
|      | 12                           | 50      | 65     | 3.4    | 46     | 6               |
|      | 12                           | 75      | 90     | 3.4    | 49     | 6               |
|      | 12                           | 90      | 107    | 3.4    | 54     | 6               |
|      | 12                           | 110     | 130    | 4.2    | 65     | 6               |
|      | 12                           | 125     | 149    | 4.8    | 72     | 6               |
|      | 12                           | 160     | 186    | 6.2    | 75     | 6               |
|      | 12                           | 200     | 228    | 7.7    | 108    | 6               |

\*at a water flow of 2l/s

## Fittings

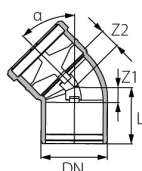
Our mineral reinforced ultra silent polypropylene fittings range in size from DN 32mm to 200mm.

### Bend 87,5°



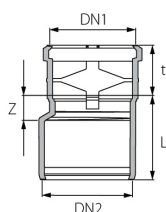
| Code | DN (mm) | L (mm) | Z1 (mm) | Z2 (mm) |
|------|---------|--------|---------|---------|
|      | 50      | 97     | 39      | 52      |
|      | 75      | 125    | 60      | 69      |
|      | 110     | 158    | 82      | 93      |
|      | 160     | 195    | 95      | 108     |

### Bend 45°



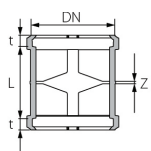
| Code | DN (mm) | L (mm) | Z1 (mm) | Z2 (mm) |
|------|---------|--------|---------|---------|
|      | 50      | 75     | 17      | 27      |
|      | 75      | 86     | 21      | 33      |
|      | 110     | 110    | 34      | 41      |
|      | 160     | 149    | 49      | 59      |

### Reducer



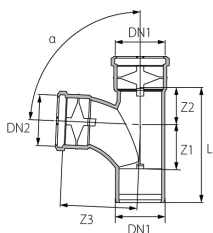
| Code | DN 1 (mm) | DN 2 (mm) | L (mm) | t (mm) | Z (mm) |
|------|-----------|-----------|--------|--------|--------|
|      | 32        | 50        |        |        |        |
|      | 50        | 75        |        |        |        |
|      | 50        | 110       |        |        |        |
|      | 75        | 110       |        |        |        |
|      | 110       | 160       | 44     | 69     | 151    |

### Double Socket



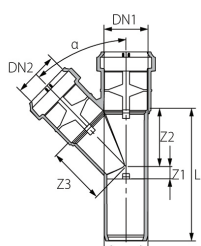
| Code | DN (mm) | L (mm) | t (mm) | Z (mm) |
|------|---------|--------|--------|--------|
|      | 50      | 65     | 20     | 3      |
|      | 75      | 75     | 22     | 3      |
|      | 110     | 85     | 28     | 3      |
|      | 160     | 108    | 38     | 4      |

## Tee 87,5°



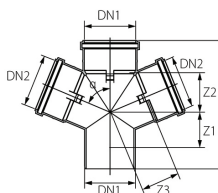
| Code | DN 1<br>(mm) | DN 2<br>(mm) | Z1<br>(mm) | Z2<br>(mm) | Z3<br>(mm) | L<br>(mm) |
|------|--------------|--------------|------------|------------|------------|-----------|
|      | 50           | 50           | 38         | 40         | 83         | 136       |
|      | 75           | 75           | 60         | 54         | 105        | 179       |
|      | 110          | 110          | 82         | 73         | 134        | 231       |
|      | 160          | 110          | 72         | 78         | 136        | 250       |
|      | 160          | 160          | 95         | 103        | 155        | 298       |

## Branch 45°



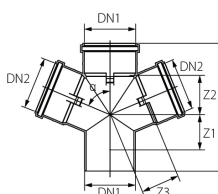
| Code | DN 1<br>(mm) | DN 2<br>(mm) | Z1<br>(mm) | Z2<br>(mm) | Z3<br>(mm) | L<br>(mm) |
|------|--------------|--------------|------------|------------|------------|-----------|
|      | 50           | 50           | 16         | 68         | 68         | 142       |
|      | 75           | 75           | 26         | 98         | 98         | 189       |
|      | 110          | 110          | 34         | 141        | 141        | 251       |
|      | 160          | 110          | 19         | 171        | 175        | 290       |
|      | 160          | 160          | 53         | 205        | 205        | 358       |

## Double Branch 45°



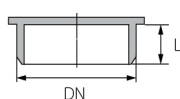
| Code | DN 1<br>(mm) | DN 2<br>(mm) | Z1<br>(mm) | Z2<br>(mm) | Z3<br>(mm) | L<br>(mm) |
|------|--------------|--------------|------------|------------|------------|-----------|
|      | 110          | 110          | 34         | 141        | 141        | 320       |

## Double Branch 87.5°



| Code | DN 1<br>(mm) | DN 2<br>(mm) | Z1<br>(mm) | Z2<br>(mm) | Z3<br>(mm) | L<br>(mm) |
|------|--------------|--------------|------------|------------|------------|-----------|
|      | 110          | 110          | 82         | 73         | 93         | 300       |

## End Cap



| Code | DN<br>(mm) | L<br>(mm) |
|------|------------|-----------|
|      | 110        | 50        |
|      | 160        | 70        |

---

# ACOUSTIC PERFORMANCE MEASUREMENTS

Determination of the acoustic performance of our PP-MD ultra-silent pipes and fittings systems was done in accordance to EN14366 "Laboratory measurement of noise from wastewater installations" and by following the German standards: DIN 4109, VDI 4100 and EN ISO 10052.

Our PP-MD silent pipes and fittings system are certified at a noise transmission level of:

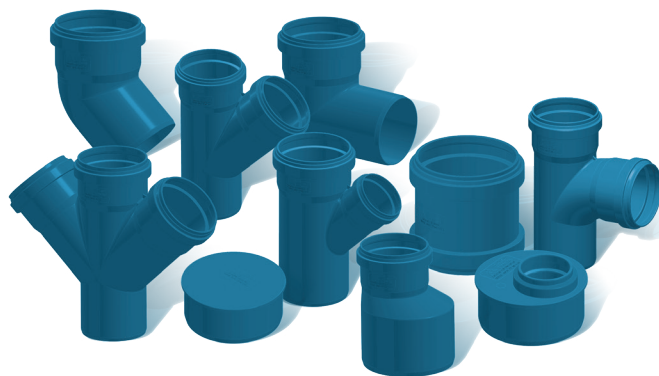
- 18 db at a water flow of 4l/s
- 16 db at a water flow of 2l/s
- 16 db at a water flow of 1l/s
- 14 db at a water flow of 0.5l/s

Our PP-MD ultra-silent pipes and fittings system are certified at a noise transmission level of:

- 14 dB at a water flow of 4 l/s
- 12 dB at a water flow of 2 l/s
- 10 dB at a water flow of 0,5 l/s

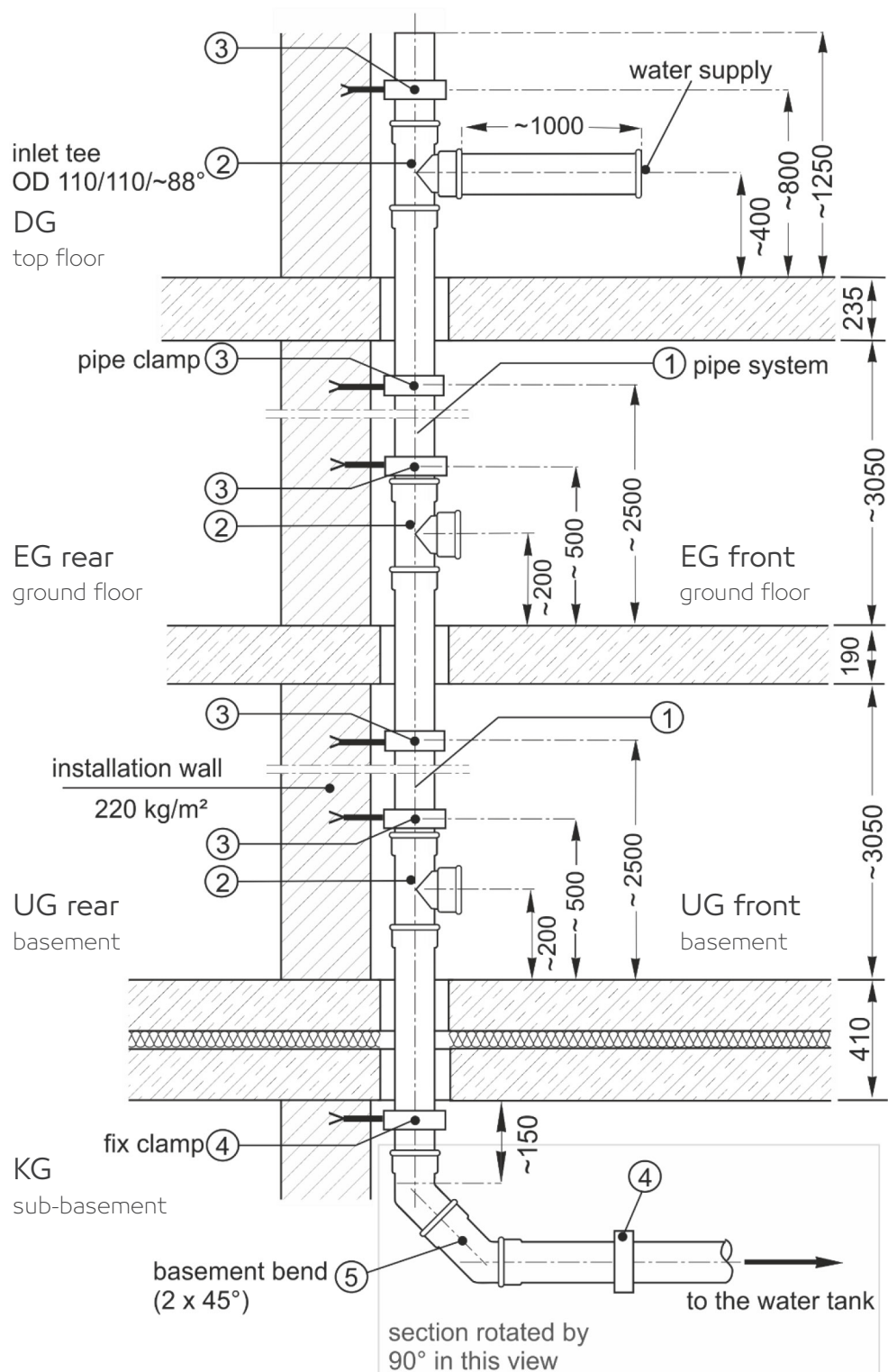
The 12 and 16 dB values are measured at the bottom floor in the room next to the downpipe where the soil & waste flow and resulting noise levels are highest, especially in multi-storey living apartments or high-rise buildings that have a combined soil and waste flow.

All tests were carried out in the accredited institute, for building physics, Fraunhofer in Germany.





## Schematic installation of the waste water system at the test facility





**Saudi made**

صنع بالسعودية



**High quality**

جودة عالية

**بروج نجد**  
**Borouge Najd**

رؤية  
**2030**  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA

[borougenajd.com](http://borougenajd.com)

T +966 50 422 2131  
E [borouge.n@outlook.com](mailto:borouge.n@outlook.com)

P.O Box 92937, Al Saly,  
Riyadh, Saudi Arabia

**بروج نجد**  
**Borouge Najd**