

# Drainage Services Department

## Specification For Gravity Sewer and Stormwater Drain Connections

### 1 Polyethylene Compounds

- 1.1 Polyethylene (PE) compounds used for the manufacture of PE pipe and fittings shall conform to BS EN 12201-1 ***“Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)”***
- 1.2 In addition to clause 1.1, PE compounds used for the manufacture of pipe shall meet the requirements of PE100-RC as defined in Clause 3.1 of PAS 1075:2009-04 ***“Pipes made from Polyethylene for alternative installation techniques”***.
- 1.3 Compounds shall be 100% virgin, pre-coloured compounds. All compounds used in pipe (including striping and co-extrusion colour compounds) shall have the same brand name and be the same base compound. No reprocessed, recycled or own reprocessed materials shall be used in the manufacture of any pipe or fittings; Clause 4.1 of BS EN 12201-2 shall not apply.

### 2 Polyethylene Pipes

- 2.1 PE pipes shall conform to BS EN 12201-2: 2011.
- 2.2 For pipes with a burial depth to the top of the pipe less than or equal to 4m, PE pipes with a Standard Dimension Ratio<sup>1</sup> (SDR) of 17 shall be used. If the burial depth is greater than 4m, PE pipes with lower SDR shall be used. In this case detailed design calculations shall be submitted to the Chief Engineer/Hong Kong & Islands, Chief Engineer/Mainland South or Chief Engineer/Mainland North for approval.

|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Equivalent Size in nominal DN / ID<sup>2</sup></b> | 200 | 225 | 250 | 300 | 375 | 450 | 550 | 600 | 700 |
| <b>PE (OD<sup>3</sup>) Size</b>                       | 225 | 250 | 280 | 355 | 400 | 500 | 630 | 710 | 800 |

- 2.3 PE pipes and fittings shall be black in colour and comply with the following additional requirements: -

- 2.3.1 Pipes shall have an internal co-extruded orange colour layer in accordance with BS EN 12201-2 Annex B. The internal colour shall be Orange with reference to BS 4800: 08 E 55 and thickness shall be 15% of the nominal pipe wall thickness<sup>4</sup> around the entire internal circumference, with a tolerance of +/-1.5%. No delamination shall occur during all tests of the co-extruded pipe.

<sup>1</sup> Standard Dimension Ratio is the ratio of the pipe diameter to wall thickness (Pipe OD/SDR= min wall thickness).

<sup>2</sup> Nominal DN / ID is the numerical designation of the size of a component, which is a convenient round number, approximately equal to the Internal manufacturing dimension in millimetres (mm).

<sup>3</sup> OD is the outside diameter of the pipe.

<sup>4</sup> Nominal pipe wall thickness is the numerical designation of the pipe wall thickness, which is a convenient round number, approximately equal to the manufacturing dimension in millimetres (mm).