

**TECHNICAL SHEET FOR SEWER CORRUGATED  
DOUBLE LAYER PIPES  
MAGNUM**

**- TECHNICAL SPECIFICATION FOR ENGINEERS -**

Supply and laying of polyethylene high density (PEHD) double layer pipelines for underground buried non pressure sewer, of nominal external diameter DN/OD\_mm, internally smooth of blue light colour to allow a better visual inspection or when using cameras, externally corrugated of black colour.

Class of ring stiffness  $SN_8$  (equal to  $8KN/m^2$ ) measured according to EN ISO 9969, produced for continuous co extrusion of both layers in conformity with standards ISO SANS 21138-3 (2008) certified by the South African institute SABS.

The pipes must be supplied with jointing kit composed of a coupler and elastomeric seals that guarantees tightness made in SBR conforms to SANS 4633, to be singly positioned on the first groove of corrugation of each pipe head where the coupler would be inserted.

The pipe has to bare on its surface the marking foreseen by ISO SANS 21138-3 (2008) and has to have the following:

- Test certification of ring stiffness flexibility foreseen by ISO SANS 21138-3 2008 using testing method described in UNI EN 1446.
- extruded by (ISO9001:2000) certified producer.
- test certification of hydraulic tightness of joints foreseen by SANS 21138-3 2008 using test method described by EN1277.
- test certification of abrasion resistance verified according to DIN EN 295-3.
- SANS certification for jointing system.

The corrugated pipes in HDPE for sewerage are made of co extruded two layers, externally corrugated to guarantee a high level of ring stiffness, internally smooth capable of high flow rate.

## - GENERAL CHARACTERISTICS -

**CONSTRUCTION:** Double layer corrugated pipe of black colour externally and blue internally.

**APPLICATION:** Underground non pressure sewerage

**STIFFNESS RESISTANCE:** 8 KN/m<sup>2</sup> measured according to EN ISO 9969

**STRUCTURE:** stable to UV rays with one year guarantee from the date of production shown on the pipe.

**LIMITS OF APPLICATION:** -40 °C / +40 °C

**LENGTHS:** 6 – 12mt long pipes

**ACCESSORIES:** Coupler and seals

**INSTALLATION:** Underground in trench.

## - TEST TYPE AND CONFORMITY -

### 1. TEST TYPE

#### Physical tests:

- **Melt flow rate** – Ref. Standard ISO 1133: 1987 Condition 1T test parameters: 190°C / 5 Kg. / 10 min) on extrusion and on raw material of both layers.
- **Density** – Ref. Standard ISO 1183 : 1987 – (Test temperature: 23° C) on extrusion and on raw material of both layers.
- **Carbon Black** – Ref. Standard ASTM D 1603 – (test parameters: temp. 600° C in nitrogen) on extrusion and on raw material of both layers.
- **Oven test** – Ref. Standard ISO 12091 – ( test temperature: 110° C; test time: 30 min.) on finished product.

#### Mechanical tests

- **Impact test** – Ref. Standard: ISO 3127
- **Ring flexibility** – Ref. Standard : UNI EN 1446
- **Ring stiffness** – Ref. Standard EN ISO 9969
- (**"creep"**) test – Ref. Standard: EN ISO 9967
- **Hydraulic tightness test** – Ref. Standard UNI EN 1277

### 2. CONFORMITY TEST

- **Visual control** – Ref. Standard UNI ISO 4582 par. 3 e 4
- **Marking** – At 2 meters interval on pipe is typed longitudinal marking using correct and readable ink
- **SN calculation** – Ref. Standard EN ISO 9969
- **Dimensions** – Average external diameter (de), minimum internal diameter (dim) – wall thickness e4 min./ wall thickness e5 – Ref. Standard SANS 21138-3 2008

#### **SOUTHERN PIPELINE CONTRACTORS (PTY) LTD (Reg No. 2005/037575/07)**

6 Main Reef Road, Dunswart, 1501, P.O. Box 6546, Dunswart 1508

Phone: +27 11 914 8500 - Fax : +27 11 914 4524 - Email : spc@vinci-construction.com - www.spc.co.za

**Director: Vincent Taibi – Company Secretary: Vincent Taibi**

**- DIMENSIONAL CHARACTERISTICS -**

Nominal Diameter DN/OD (mm)	125	160						500	630	800	1000	1200
Nominal Diameter DN/ID (mm)			200	250	300	355	400					
<b>External Diameter (mm)</b>	125	160	230	291	353	414	473	500	630	800	1000	1200
<b>Internal Diameter (mm)</b>	105	137	200	250	300	355	400	433	546	693	867	1036
<b>Wall thickness of the sum of both layers at point of connection e<sub>4min</sub> (mm)</b>	1.1	1.2	1.5	1.8	2.0	2.3	2.5	2.8	3.3	4.1	5.0	5.0
<b>Wall thickness of internal layer e<sub>5min</sub> (mm)</b>	1.0	1.0	1.1	1.5	1.7	2.0	2.3	2.8	3.3	4.1	5.0	5.0
<b>Average Stiffness (SN)</b>	>8	>8	>8	>8	>8	>8	>8	>8	>8	>8	>8	>8
<b>State of surface &amp; finishing</b>	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582	Conf. UNI ISO 4582
<b>N°of pipes per pallet</b>	94	59	27	18	10	8	5	5	-	-	-	-
<b>Length of pipes</b>	6	6	6	6	6	6	6	5.85	5.85	5.85	5.85	5.85
<b>External layer Material</b>	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD
<b>Internal layer Material</b>	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD	PE HD

Tolerance +-2%

**SPC  
TECHNICAL DIVISION**