PE100+ QUALITY MATERIALS

Valid until September 2013

The PE100+ Association ensures the very highest quality of PE100 products by continuously monitoring three fundamental properties:

- 1) Creep Rupture Strength,
- 2) Stress Crack Resistance and
- 3) Resistance to Rapid Crack Propagation.

Network engineers have identified these to be crucial for increasing the use of PE pipes in gas and water distribution networks.

Property	Test Method	PE 100+ Association
		requirements
Creep Rupture Strength	Pressure test at 20°C	<u>≥</u> 200 h
	and 12.0 MPa	
Stress Crack Resistance	Pipe notch test at 80°C	<u>≥</u> 500 h
	and 9.2 bar	
Resistance to Rapid Crack Propagation	S4 Test at 0°C	$p_c \ge 10 bar$

All tests are performed on 110mm - SDR 11 pipe.

On behalf of the PE100+ Association, <u>Kiwa Gastec Certification B.V.</u>, an independent testing authority in the Netherlands repeats those test rounds together with various independent and internationally respected laboratories every seven to ten months.

The following products (in alphabetical order) met the PE 100+ requirements

Product	Manufacturer	Production Country	
BorSafe TM HE3490-LS (black)	Borealis AG	Sweden	
BorSafe TM HE3494-LS (blue)	Borealis AG	Finland	
Borsafe [™] HE 3490-LS-H (black)	Borealis AG	Sweden	
Borsafe TM HE 3492-LS-H (orange)	Borealis AG	Sweden	
Borsafe TM HE 3494-LS-H (blue)	Borealis AG	Finland	
BorSafe TM HE3490-LS (black)	Borouge Pte., Ltd.	Abu Dhabi	
Borsafe TM HE 3490-LS-H (black)	Borouge Pte., Ltd.	Abu Dhabi	
ELTEX® TUB 121 (black)	Ineos O&P	France	
ELTEX® TUB 125 N2025 (orange)	Ineos O&P	France	
ELTEX® TUB 124 N2025 (blue)	Ineos O&P	France	
ELTEX® TUB 121 N3000 (black)	Ineos O&P	Belgium	
Hostalen CRP 100 (black)	LyondellBasell	Germany	
Hostalen CRP 100 (blue)	LyondellBasell	Germany	
Hostalen CRP 100 Resist CR (black)	LyondellBasell	Germany	
HI-ZEX® 7700 MBK (black)	Prime Polymer Co., Ltd.	Japan	
EVL-H®SP5505BK (black)	Prime Polymer Co., Ltd.	Japan	
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SABIC® Vestolen A 6060 R (black)	SABIC Polyolefine GmbH	Germany
SABIC® Vestolen A 6060 R (blue)	SABIC Polyolefine GmbH	Germany
SABIC® Vestolen A RELY 5922R-10000	SABIC Polyolefine GmbH	Germany
(Black)		
TASNEE 100 Black	Saudi Ethylene & Polyethylene Co	Saudi Arabia
EL-LENE H1000PC (black)	SCG Chemicals & Thai Polyethylene, Ltd	Thailand
HDPE XS10H (blue)	Total	Belgium
HDPE XS10B (black)	Total	Belgium
HDPE XS10 Orange YCF (orange)	Total	Belgium