TECHNICAL DATA SHEET

(Rev. No. 04, Date: 01.02.2023)

BLS PC 5555

HIGH DENSITY POLYETHYLENE BLACK COMPOUND FOR STEEL PIPE TOP COATING

DESCRIPTION

BLS Polymers Ltd. introduces another sophisticated compound for top coat of 3 layer steel pipe coating – **BLS PC 5555** a bimodal HDPE based Black Coating Compound totally protected against thermal degradation and having excellent weathering resistance. This compound is made from specially selected HDPE resin, carbon black and is RoHS compliant that provides a balance of toughness, low shrinkage, high moisture barrier, high abrasion resistance, excellent weathering resistance, excellent chemical resistance, high ESCR, heat deformation resistance, low friction for easy pulling during installation, easy processability than conventional compounds. This compound meets the stringent quality requirements for Top Coat of 3 layer Coating of Steel Pipe coating. **BLS PC 5555** has a maximum design temperature of 80°C and minimum design temperature is -40°C.

APPLICATION

BLS PC 5555 is a readymade compound fully stabilized against influence of UV rays of sunlight, oxygen in air and heat (due to environmental temperature up to +80°C). **BLS PC 5555** is recommended for top coat application for 3 LPE Steel Pipe.

BLS PC 5555 is intended to fulfil National and International standards, when appropriate industrial manufacturing standard procedures and practices are applied and a continuous quality system is implemented and when used in combination with maleic anhydride grafted co-polymeric adhesive (BLS PC 1009) or other grafted co-polymeric adhesive and a compatible fusion bonded epoxy.

ISO 21809-1

DIN 30670

EIL 6 -71-0041

IOCL- MECH- COAT -3LPE -027

CSA-Z 245.21

Gazprom 2-2.3-130-2007

NF A 49-710

DEP 31.40.30.31 Gen

TECHNICAL DATA SHEET

(Rev. No. 04, Date: 01.02.2023)

TYPICAL PROPERTIES:

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density of Compound	ASTM D 792 / ISO 1183-1	gm/cc	0.950
Density of Base Resin	ASTM D 792 / ISO 1183-1	gm/cc	0.938
Melt Flow Index (190°C/ 2.16 Kg)	ASTM D 1238 / ISO 1133-1	gm/10 min	0.38
Tensile Strength at Break @ +25°C	ASTM D 638 / ISO 527-2	MPa	28
Elongation at Break	ASTM D 638 / ISO 527-2	%	750
Tensile Strength at Yield	ASTM D 638 / ISO 527-2	MPa	18
Oven Ageing at 110°C/10 days			
Retention of Tensile Strength	ASTM D 638 / ISO 527-2	%	>85
Retention of Elongation at Break	ASTM D 638 / ISO 527-2	%	>85
Thermal/Heat Ageing	ISO-21809-1, Annex G.2		<35
Light/UV Ageing	ISO-21809-1, Annex G.1		<35
Carbon Black Content	ASTM D 1603 / ISO 6964	%	2.6
Carbon Back Dispersion	BS 2782, Part 8, 823A & 823B / ISO 18553		
(a) Rating			2
(b) Uniformity of Appearance			Satisfactory Better than 'A' of Fig. 1
O.I.T @220°C in Al pan	ASTM D 3895 /ISO 11357-6	Minutes	42
ESCR,10% Igepal CO630, 50°C/ F50/Cond. B	ASTM D 1693	H	No Cracks observed after 2000h (F0)
Volume Resistivity @ +25°C	ASTM D 257	ohm-cm	>1 X 10^{16}
Dielectric Constant	ASTM D 150	-	2.55
Dielectric Strength @ 1000v/sec rise @ +25°C	ASTM D 149	kV/mm	>30
Hardness (1 Sec)	ASTM D 2240 / ISO 868	Shore D	60
Brittleness Temperature	ASTM D 746 / ISO 812	°C	Passed at -76°C
Water Content	ASTM D 6980 / ISO 15512	%	0.04
Melting Point	ASTM D 3418 / ISO 3146	°C	130
Water Absorption at +25°C/ 24 h	ASTM D 570	%	0.04
Vicat Softening Point	ASTM D 1525 / ISO 306	°C	120
Indentation (Mass 2.5 kg)			
a) At 23 ± 3°C	ISO 21809-1, Annex F	Mm	<0.2
b) At 80°C	ISO 21809-1, Annex F	Mm	<0.4
Impact Resistance at 23°C	ISO 21809-1, Annex E	J/mm	8
Coating Resistivity	DIN 30670	Ohm-m^2	>1 X 10^{10}

- Termite Repellent version
- Rodent Repellent version Type equation here.
- Termite and Rodent Repellent version
- Natural and Colored UV Stabilized Compound are also available on request

BLS Polymers Ltd
604, Indraprakash Building, 21, Barakhamba Road, New Delhi - 110001
Tel. (011)-23310658 | Fax. 23755264 | blspoly@blsgroup.in | www.blspolymers.com

PROCESSING CONDITION

Recommended Processing Condition for BLS PC 5555:

We recommend that material is pre-dried at 90°C for a minimum time of 2 hours for best performance due to the hygroscopic nature of carbon black.

As a start - up we suggest set the following temperature profile

Extruder Barrel: 170 - 210°C
Head: 200 - 220°C
Die: 200 - 230°C
Melt Temp.: 210 - 240°C
Max Recommended Melt Temperature: <260°C

However, actual temperature profile will depend upon the screw compression ratio, L/D ratio, size of the pipe, type of application technique flat or crosshead die, etc.

PACKAGING:

BLS PC 5555 is available in 25 kg Laminated Woven Sack with additional PE Liner, 700 kg Bulk Bags with additional PE Liner, 650 kg Paper Board Octabin with additional PE Liner.

SHELF LIFE

BLS PC 5555 must be stored in ambient temperature (not exceeding 50 deg C) in a shaded area in sealed and intact bags to avoid exposure to sunlight and moisture. Long storing may affect the property of the compound and for this reason should be used within 24 months from the compounding date. It is better to measure the moisture on long storage and dry the material before use after long storage.

SAFETY

The product is not classified as a hazardous preparation.
Dust and fines from the product carry a risk of dust explosion. All equipment should be properly earthed.
Inhalation of dust should be avoided as it may cause irritation of the respiratory system. Small amounts of fumes are generated during processing of the product. Proper ventilation is therefore required.
Please refer to our MSDS for details on various aspects of safety, recovery, disposal and handling of the product.

RECYCLING

The product is suitable for recycling using various methods of shredding and cleaning in-house production waste should be kept clean to facilitate direct recycling.