

ADVANCENE™ bEEB-5906-AAH

*Black Bimodal High Molecular weight
High Density Polyethylene Resin*

Overview:

ADVANCENE™ bEEB-5906-AAH is a black compounded thermally stabilized bimodal high molecular weight high density polyethylene-hexene copolymer, produced using advanced gas phase PE process in a single reactor. It is intended for use in PE-100 pipe applications where the highest standards of long-term hydrostatic strength and resistance to slow crack growth are desired. ADVANCENE™ bEEB-5906-AAH has good processability with a high specific output (kg/ hr/ rpm), exceptional melt strength with very Low Sag, and good fusion compatibility.

Applications:

- Natural gas distribution pipes (DIN EN 1555-1).
- Mining, sewage, and municipal water service lines

Additives:

- Thermal Stabilizer
- Carbon Black

Complies With

- ISO 12162: PE-100 Black.

Physical Properties	Nominal Value (SI)	Test Method
Density	0.959 g/cm ³	ASTM D1505, ISO1183
Melt Index (190°C/5 kg)	0.19 g/10 min	ASTM D1238, ISO 1133-1 ¹
Melt Index (190°C/21.6 kg)	6.0 g/10min	
Carbon Black Content (Grade)	≥ 2%	ASTM D1603, ISO 6964 ³
Carbon Dispersion (Grade)	≤ 3	ISO 18553
Moisture Content	<300 PPM	ISO 15512
Mechanical Properties	Nominal Value (SI)	Test Method
Tensile Strength at Yield	22 MPa	ASTM D638 ² , ISO 527
Tensile Strength at Break	32 MPa	
Tensile Elongation at Break	680 %	ASTM D790B ¹ , ISO 178
Flexural Modulus – 2% Secant	1000 MPa	
Charpy Impact Strength AT 23 °C	5.41 J/cm	ASTM D6110, ISO 179
Charpy Impact Strength AT -30 °C	2.31 J/cm	
Hardness Shore D	63	ASTM D2240, ISO 868
Thermal Properties	Nominal Value (SI)	Test Method
Brittleness Temperature	<60 °C	ASTM D746, ISO 974
OIT (at 210°C)	> 20 min	ISO 11357-6
Pipe Properties	Nominal Value (SI)	Test Method
Designation	PE-100 Black	ISO 12162
Minimum Required Strength	>10 MPa	ISO 9080
Slow Crack Growth Resistance ⁴ (80°C, 0.92 MPa)	≥1000 Hours	ISO 13479
Resistance to Rapid Crack Propagation ⁴ , Pc	≥ 10 bar	ISO 13477

Pipe Extrusion Conditions

Typical extruders have (cooled) grooved barrels and barrier screws with an LD ratio ca 30. Pellets should be dried to below 300 ppm moisture before use.

Barrel temperatures: 190 – 210°C.

Head and Die temperatures: 200 – 215°C.

Melt temperature: 200 – 220°C.

Due to the hygroscopic nature of carbon black, this compound is sensitive to moisture. Storage for a long time or under unfavorable conditions will increase the moisture content. For normal conditions and applications, we recommend preheating and drying for minimum 1 hour with a maximum preheat temperature of 90°C

Notes:

- 1 Method B
- 2 Molded and tested in accordance with ASTM D4976
- 3 method A
- 4 Tested on 110mm SDR11 pipe

Availability:

This product is supplied in 25 kg bags in secured pallets of 60 bags (1.500 MT net). It is also supplied in jumbo bags of 1000 kg capacity.

Storage:

The product should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product. More information on storage can be found on the Safety Information Sheet for this product.

Safety:

The product is not classified as a hazardous mixture.

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. A Safety Information Sheet is available on request. Please contact your ETHYDCO representative for more details on various aspects of safety, recovery and disposal of the product.

Recycling:

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

Related documents:

Most datasheets and statements are available on ETHYDCO website www.ethydc0-eg.com. If more information is required, please contact an ETHYDCO representative for information.

Disclaimer:

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

ETHYDCO makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.



It is the customer's responsibility to inspect and test our products in order to satisfy them with the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of ETHYDCO products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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