

Technical Data Sheet

**REPSOL
YPF**

**ALCUDIA®
HD POLYETHYLENE**

5300-N

BLACK COMPOUND

MAIN APPLICATIONS	*BLACK PIPES FOR GAS AND POTABLE WATER *PIPES OF LARGE DIAMETERS
SPECIAL CHARACTERISTICS	*EXCELLENT BALLANCE BETWEEN RIGIDITY AND OTHER PROPERTIES
MELT FLOW INDEX (190°C, 5 Kg)	0.50 g/10 min.
NOMINAL DENSITY	954 kg/m ³

INTRODUCTION

ALCUDIA^(R) 5300-N black compound, is an hexene copolymer of high molecular weight especially apt for the extrusion of pipe for gas and potable water, to comply with the requirements of EN 1555 and EN 12201 european specification standards.

The combination of the antioxidant system and minimum of 2.0% well dispersed carbon black used in 5300-N provides the following features:

- excellent protection against thermal oxidation during processing.
- long term stability.
- excellent cracking resistance.

Based on the new ISO classification the ALCUDIA^(R) 5300-N compound is classified PE 80.

Because other good mechanical properties and their characteristics, the polyethylene black compound ALCUDIA^(R) 5300-N, is designed to produce large diameter pipe for potable water.

TYPICAL EXTRUSION CONDITIONS

The following temperature profile is suggested as a guide. Conditions will depend on size and wall thickness of the pipe produced and extrusion equipment used.

4 BARREL ZONES	CROSSHEAD 3 ZONES	MELT TEMPER.
From: 175/180/185/190 °C To: 195/200/205/210 °C	195/195/195 °C 215/215/215 °C	195 °C 215 °C

Filter pack: 1 x 60 + 1 x 100 mesh gauze
Screw L/D: 20
Compression ratio: 4:1

PROPERTIES

The ALCUDIA^(R) compound 5300-N has excellent mechanical properties, cracking resistance and good resistance to internal pressure.

The following table shows typical values for its physical properties.

CONTACT WITH FOODSTUFFS

The ALCUDIA^(R) 5300-N may be used in contact with foodstuffs. For more information about specific country regulation, please, contact with our local representative or the Technical Service.

ALCUDIA^(R) 5300-N PROPERTIES

PROPERTIES	UNITS	TYPICAL VALUE	TEST METHODS
A) GENERAL			
- Melt	2.16 Kg/190°C	g/10 min.	0.11
- Flow	5 Kg/190°C	g/10 min.	0.50
- Index	21.6 Kg/190°C	g/10 min.	11.0
- Density at 23°C		kg/m ³	954
- Vicat softening point		°C	126
			ISO 1133 ISO 1133 ISO 1133 ISO 1183 ASTM D-1525 (Vet-A)
B) MECHANICAL			
- Tensile strength at break	MPa	35	EN 638
- Elongation at break	%	800	EN 638
- Flexural Modulus	MPa	800	ASTM D-790
C) INTERNAL PRESSURE RESISTANCE			
- At 20°C, 10.0 Mpa	h	>100	EN 1555/12201
- At 80°C, 4.6 Mpa	h	>165	EN 1555/12201
- At 80°C, 4.0 Mpa	h	>1000	EN 1555/12201
- Long-term hydrostatic strength for 50 years at 20°C	MPa	>8.0	Regression curve ISO TR 9080
D) OTHERS			
- ESCR (Antarox CO-630 at 10%)	h F ₍₅₀₎	>1000	ASTM D-1693
- O.I.T.(210 °C)	min	> 20	UNE EN 728
- Brittleness temperature	°C	<-118	ASTM D-746
- Hardness	Shore D	60	ASTM D-2240

June 2004

This information is offered in good faith and meant only as a guide. The transformer or user will be, in each case, responsible for the processing conditions and the final use of the product. Freedom under patents, copyright and registered designs cannot be assumed.

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