



POLYETHYLENE PIPE GRADES

Recycled high-Density Polyethylene Compound for production of Pipe:

This type of recycled compound has three different grades that are used depending on the desired application:

- **Grade 2:** This grade is used for the production of pipes that bear a lot of pressure from the inside such as single-walled pipes.
- **Grade 3:** One of the uses of this grade is the production of the outer layer of various types of polyethylene corrugated pipes, which usually have to withstand high pressure from the outside and bear less pressure from the inside.
- **Grade 4:** From these recycled polyethylene compound materials, pipes can be produced in a pure form and even without the need to add petrochemical virgin grades, although these materials are used in combination with virgin petrochemical grades to reduce the total price of the product. These pipes are used for lower pressure applications. These grades are mostly used to produce agricultural irrigation pipes with a maximum lifespan of 3 to 5 years.

Polypropylene Z30S textile grades based on petrochemical virgin grades:

- **HDPE compound produced entirely with petrochemical virgin grades:** The grades of this category are known as CRP100B and PE-80B. Pipe manufacturers prefer to use pipe compounds to produce their products, in which carbon black and other additives such as masterbatch are used and also due to the Iranian government's support for domestic production the price of these materials is lower and more economical than the direct export from petrochemicals
- **Direct export from petrochemicals:** CRP100B is a heavy extruded polyethylene in black color for making pipes under pressure and without pressure, and its useful life is at least 50 years. Other petrochemical virgin grades include CRP100N, HDPE EX3, and HDPE 80B.

Pipe Grades					
Grades	Production Type	MFI (@190°C, 5Kg) (ASTM 1238)	Density (g/cm3) (ASTM D D1829)	OIT	Carbon Black content (%) (ASTM D 4218)
HDPE PNM-VIR-PE100B-Grade1-RA	virgin	0.22	0.957	>25	2.3
HDPE PNM-Vir-PE100B-Grade1-IV	virgin	0.24±0.04	0.955±0.004	>25	2.25±0.25
HDPE PNM-Vir-PE100B-Grade1-AG	virgin	0.25±0.04	0.955±0.005	>25	2.2±0.2
HDPE PNM-Vir-EX3-Grade1-MAJ	virgin	0.45±0.06	0.947±0.002	—	—
HDPE PNM-Rec-PE80-Grade2-ABA	Recycle	0.40±0.08	0.951±0.008	>30	2.25±0.25
HDPE PNM-Rec-PE80-Grade3-DA	Recycle	0.43±0.08	0.950±0.005	>20	2±0.5
HDPE PNM-Rec-PE80-Grade3-LI	Recycle	0.53±0.17	0.939±0.01	<1	2±0.5
HDPE PNM-Rec-PE80-Grade3-IRA	Recycle	0.48±0.25	0.910±0.02	>20	1.5±0.5
HDPE PNM-Rec-PE80-Grade4-BA	Recycle	1.60±0.3	0.92±0.02	<1	1±0.5

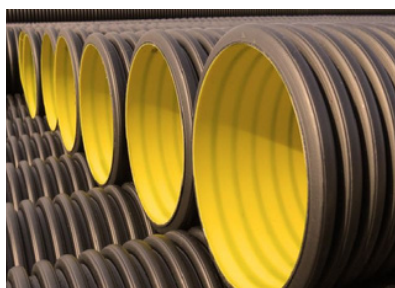
PE 100B VIRGIN



GRADE 3



EX 3 VIRGIN



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