



Tabriz Petrochemical Company

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**MD – 3840UA**  
**Medium Density polyethylene**

**- Product Description**

- MD-3840UA is a linear medium density polyethylene copolymers containing butane-1 as the comonomer with narrow molecular weight distribution. This resin designed to offer excellent processability, stiffness and fast grinding rate. This UV stabilized resin is ideally suited for application that requires good impact strength and ESCR along with excellent external and internal surface finish.

**- Typical data**

- Septic tanks
- Potable water tanks
- Large agricultural tanks
- Toys
- Wide variety consumer articles
- Canoes and Boats

Property	Test Method	Unit	Typical Value
<b>Physical Properties</b>			
MFI(190°C/ 2.16Kg)	ASTM D 1238	gr/10Min	4.0
MFI(190°C / 5.0Kg)			-
Density	ASTM D 1505	gr/cm <sup>3</sup>	0.938
<b>Formulation</b>			
Anti Oxidant		✓	
UV Stabilizer		✓	
<b>Mechanical Properties</b>			
Flexural Modulus	ASTM D 790	MPa	900
Tensile Strength at yield	ASTM D 638	MPa	18
Elongation at Break	ASTM D 638	%	900
Charpy Impact Strength	ASTM D 256	Kj/m <sup>2</sup>	18
Hardness Shore D	ASTM D 2240	-	62
ESCR, F50, 100% Igepal,	ASTM D1894	hr	400
<b>Thermal Properties</b>			
Vicat Softening Temperature	ASTM D 1525	°C	117
Melting Point	ASTM D2117	°C	127

The above data are typical laboratory average. They are intended to serve as guide only.

## TECHNICAL DATA SHEET

### Product Data Sheet: BG-HD-3840 UA

High Density PE	Rotomolding	
HDPE: BG-HD-3840	Density: 0.935-0.939	MFI: 3.8-4.5

#### Feature:

- Co-monomer: Butene-1
- High Impact Strength
- High Elongation
- High Stress Cracking Resistance
- Good Stiffness

#### Application:

- Septing Tanks
- Ordinary Containers
- Injection Molded technical parts

#### Additive:

- UV Stabilizer
- Antioxidants

❖ **Material properties** (this data are typical values and shall not be construed as product specifications.)

Resin Properties	Unit	Condition	Typical Value	Test Method
Melt Flow Rate (MFR)	g/10 min	190°C/2.16 kg	3.8-4.5	ASTM D1238
Density	g/cm <sup>3</sup>	23°C	0.935-0.939	ASTM D1505
Physical Properties	unit	Condition	Typical value	Test Method
F/E Ratio	—	—	26±2	ASTM D1238
Vicat	°C	—	121	ASTM D1525
Tensile Stress @Yield	Mpa	—	23	ASTM D638
Tensile Strain @Yield	%	—	11	ASTM D638
Flexural Modulus	Mpa	—	650	ASTM D790
Izod Impact Resistance	J/m	Notched Method	118	ASTM D256
ESCR (IGEPAL 10%)	HR	(F50, 50°C)	>500	ASTM D1693
Contamination	%	—	<20	BASELL MTM-17064 E

\* Guaranteed items: MFR, Density & F/E Ratio.

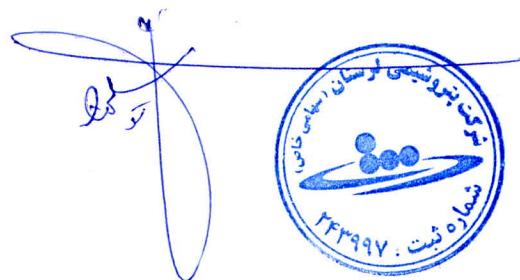
\* F/E Ratio of MIF (190°C/21.6 kg)/ MIE (190°C/2.16 kg)

\* The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties.

\* It is the customer's responsibility to inspect and test our product(s) in order to satisfy itself as to the suitability of the product(s) for its and its customers' particular purposes. The customer is responsible for the appropriate, safe & legal use, processing and handling of all product(s) purchased from us.

\* Nothing herein is intended to be nor shall it constitute a warranty whatsoever, in particularly, warranty of merchantability or fitness for a particular purpose.

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Arak Petrochemical Company



ISO 9001:2000  
Certificate No.: CH98/8032

ISO 14001:2004  
Certificate No.: CH03/0112

OHSAS 18001:1999  
Certificate No.: CH05/0675

Typical properties	Test method (ASTM)	Unit	Value
MFI@190°C, 2.16 kg	D-1238	gr/10min	3.8 - 4.5
Density	D-1505	gr/cm³	0.935-0.939
Tensile Strength@Yield	D-638	Mpa	18
Tensile Modulus	D-638	Mpa	—
Elongation@Break	D-638	%	1000
Flexural Modulus	D-790	Mpa	700
Hardness Shore D	D-2240	—	—
Charpy Impact Resistance (Notch)	D-256	Kj/m²	20

➤ Values shown are averages & are not to be considered as product specifications.

#### ❖ Main application & Characteristics:

HD3840UA is a linear, UV stabilized virgin medium density polyethylene copolymer grade (MDPE), with a narrow molecular weight distribution.

##### ♦ Characteristics:

- High stiffness.
- Good impact stress.
- Whiteness.
- UV stabilized.
- Good Stress Cracking Resistance.
- Excellent process-ability.
- Excellent internal and external surface finish.

##### ♦ Typical applications are:

- Rotational moulded items with good stiffness, such as: Septic tanks and Ordinary containers.
- Injection moulded technical parts and closure.

\* HD3840UA is suitable for food contact.

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