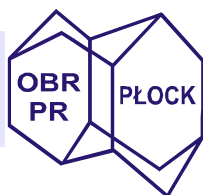


**OŚRODEK BADAWCZO – ROZWOJOWY PRZEMYSŁU RAFINERYJNEGO  
SPÓŁKA AKCYJNA**

09-411 Płock, ul. Chemików 5, POLSKA  
[www.obr.pl](http://www.obr.pl)



**TECHNICAL CARD  
FOR THE GEOSYNTETIC POLYMERIC GEOMEMBRANE BARRIER HDPE –IZOVIL GEO**

Geosyntetic polimeric barrier – geomembrane HDPE-**IZOVIL GEO** is manufactured from HD Polietylene with addition of stabilizing materials. It comes with different thicknesss. Geomebrane characteristics: high chemical resistance, stress crack resistance, mechanical durability, high resistance for atmospherical conditions according with the appendix B enclosed in "Geosyntetics Barriers" norms.

As non-permeable barrier is used while constructing :

- tunnels and underground constructions
- tanks and liquid waste conglomerations
- non-liquid dumping grounds and warehouses
- preventions from the water leakage thru the construction walls
- water ponds and water barriers
- sealings in area of the liquid petrol distribution and warehousing (with temporary influence)
- sealings in city wastewaters refineries (commercial and urbanization wastewaters) and in manure tanks

Geomembrane **IZOVIL GEO** fulfils the requirements of the following norms:

PN- EN 13491:2006+PN-EN 13491:2006/A1:2007, PN- EN 13492:2006+ PN-EN 13492:2006/A1:2007, PN- EN 13361:2006+ PN-EN 13361:2006/A1:2007, PN- EN 13493:2007, PN- EN 13362:2007.

Declaration of Conformity was issued for this product. It is marked with CE sign . Also the Certificate of the Factory Production Control No 1488-CPD-0139/Z was issued by Instytut Techniki Budowlanej in Warsaw, dated 19.01.2009.

Characteristics		Testing method	Nominal Values (tolerance)				
			0,75	1,0	1,5	2,0	2,5
1	Width, [m]	-	5,0 (±0,2)				
2	Density, [g/cm <sup>3</sup> ]	ASTM D 1505	≥ 0,94				
3	MFI (190°C, 5 kg), [g/10 min]	PN-EN ISO 1133	≤ 1,0				
4	Carbon Black Content, [%]	ASTM D 1603 (mod).	2-3				
5	Carbon Black Dispersion	ASTM D 5596	9 of 10 pictures- cat 1 or 2, no more than 1 picture cat. 3				
6	Water Permeability, [m <sup>3</sup> /m <sup>2</sup> /d]	PN-EN 14150	1,5E-06 (+ 0,5E-06)				

7	Gas Permeability, [mol/m <sup>2</sup> /s]	ASTM D 1434	30×10 <sup>-9</sup> (+ 3×10 <sup>-9</sup> )				
8	Radon Permeability	Method K 124/02/95	4,2.10 <sup>-12</sup> ± 0,1.10 <sup>-12</sup>				
	Radon Permeability (weld)		3,3.10 <sup>-12</sup> ± 0,1.10 <sup>-12</sup>				
9	Strength at break (max stress at yield), [MPa] along and across	PN-EN ISO 527-1 PN-EN ISO 527-3	30 (-3)				
10	Stress at yield [MPa] along and across		17 (-2)				
11	Elongation at break, [%] along and across		700 (-70)				
12	Elongation at yield [MPa] along and across		11 (-1)				
13	Puncture resistance, [N]	ASTM D 4833	300(-50)	400(-80)	600(-100)	750(-100)	800(-100)
14	Tear resistance, [N]	ASTM D 1004	100(-5)	130(-10)	200(-20)	300(-20)	350(-20)
15	Stress crack resistance (NCTL), [h]		300				
16	Linear Thermal extension rate, [1/K] along across	ASTM D 696	1,600× 10 <sup>-4</sup> (+ 0,4×10 <sup>-4</sup> ) 1,346 ×10 <sup>-4</sup> (+ 0,3×10 <sup>-4</sup> )				
17	Oxidative Induction Time OIT , (O <sub>2</sub> , 200 °C), [min]	ASTM D 3895	100				
18	Dimensional Stability /120°C,1h/ [%] along and across	DIN 53377	± 2				
19	Low temperature brittiness [°C]	ASTM D 746	- 60				
20	Fire resistance	PN-EN ISO 11925-2	Class E				
21	Durability and resistance for: - atmospheric conditions - oxidation - lixiviation - stress crack -chemicals determined in norms	PN-EN-12224 PN-EN-14575 PN-EN 14415 ASTM D 5397 (zał.) PN-EN 14414	Fulfils the requirements				
22	Hazardous substances		No hazardous substances				

All values are nominal values presented as an information.



**1488-CPD-0139/Z**



More information on the website address: [www.obr.pl](http://www.obr.pl)