1. Introduction:

High(middle) density polyethylene geomembrane is made from HDPE resin and additives such as antioxidant ,light-stabilize and carbon black, etc. It is extensively used for landfills, sewages, mining, environmental protections and irrigation projects.

□□**Specification**□ thickness□0.3mm-3.0mm width□4-10m

□□**Characteristic**□

- There are two types of the geomembrane's surface: smooth and textured. The textured surface has higher friction coefficient which can be used to avoid slide between the two covering layers .
- It has excellent erosion resistance, pitch ,oil and tar resistance, bacteria resistance and no poison
- The product has high UV resistance ,oven aging resistance and oxidant resistance, it can endure the direct sunlight lasting for decades.
- It has high tensile strength and tear resistance with excellent puncture resistance on the surface of rough and coarse basic ground .The puncture resistance by plant root accord with DIN4062.
- It can be easily welded by hot wedge and hot wind and is convenient for construction.

4. Major technical parameter□

Minimum Values for Smooth Black-Surfaced HDPE Geomembranes ASTM GM13

Property	**Test Method**[1]
Thickness, mil (mm)	

ASTM D 5199

Minimum Average

30 (0.75)

36 (0.91)

60 (1.5)

80 (2.0)

100 (2.5)

120 (3.0)

Lowest Individual Reading

27 (0.69)

40 (1.0)

54 (1.4)

72 (1.8)

90 (2.3)

108 (2.7)

Density, g/cm^3

ASTM D 1505

0.94

0.94

0.94

0.94

0.94

0.94

Carbon Black Content, %

ASTM D 1603, mod.

2.0

2.0

2.0

2.0

2.0

2.0

Carbon Black Dispersion

ASTM D 5596

Note 2

Note 2

Note 2

Note 2

Note 2

Note 2

Tensile Properties:

ASTM D 6693

(each direction)

Strength at Yield, lb/in (kN/m)
63 (11)
84 (15)
130 (23)

173 (30)

216 (38)

259 (45)

Strength at Break, lb/in (kN/m)

122 (21)

162 (28)

243 (43)

324 (57)

405 (71)

486 (85)

Elongation at Yield, %

(1.3” gauge length)

13

13

13

13

13

13

Elongation at Break, %

(2.0” gauge length)

700

700

700

700

700

700

Tear Resistance, lb (N)

ASTM D 1004

21 (93)

28 (124)

42 (187)

56 (249)

70 (311)

84 (373)

Puncture Resistance, lb (N)

ASTM D 4833

59 (263)

79 (352)

119 (530)

158 (703)

180 (800)

216 (960)

Notched Constant Tensile Load, hours

ASTM D 5397, app.

400

400

400

400

400

400

Oxidative Induction Time, min.

ASTM D 3895

100

100

100

100

100

100

1 Some test procedures have been modified for application to geosynthetics. All procedure

2 Only near spherical voids are considered. Category 3.