

# High Density Polyethylene



## HF09522

EVALENE<sup>®</sup> HF09522 is a high molecular weight High Density Polyethylene grade for blown film applications.

**EVALENE<sup>®</sup> HF09522** is ideal for stiff and strong films. Bags made of **EVALENE<sup>®</sup> HF09522** can carry heavy loads and exhibit good puncture resistance. Packaging made from **EVALENE<sup>®</sup> HF09522** has superior performance and good barrier resistance against moisture and oxygen. Downgauging using **EVALENE<sup>®</sup> HF09522** is highly recommended due to its superior mechanical properties. Optimum gauge reduction is a real possibility.

### FEATURES

- Superior toughness
- High stiffness
- Good puncture resistance
- Good moisture barrier properties
- Meets FDA Philippines food-contact requirements
- Halal certified

### TYPICAL APPLICATIONS

- Grocery bags
- Supermarket produce bags
- Carrier bags
- Trash bags
- Sack liners

## Product Properties

| Property                   | Test Condition       | Test Method | Typical Value | Unit              |
|----------------------------|----------------------|-------------|---------------|-------------------|
| Flow Index <sup>1</sup>    | 190°C/21.6 kg        | ASTM D1238  | 9             | g/10 min          |
| Melt Index                 | 190°C/2.16 kg        | ASTM D1238  | 0.075         | g/10 min          |
| Density                    | 23°C                 | ASTM D1505  | 0.952         | g/cm <sup>3</sup> |
| Tensile Strength at Yield* | 500 mm/min           | ASTM D882   | 27 / 28       | MPa               |
| Elongation at Yield*       | 500 mm/min           | ASTM D882   | 9 / 5         | %                 |
| Tensile Strength at Break* | 500 mm/min           | ASTM D882   | 37 / 22       | MPa               |
| Elongation at Break*       | 500 mm/min           | ASTM D882   | 226 / 332     | %                 |
| Tensile Modulus*           | 1% Secant, 25 mm/min | ASTM D882   | 786 / 940     | MPa               |
| Elmendorf Tear Strength*   |                      | ASTM D1922  | 21 / 336      | g                 |
| Dart Drop Impact Strength* |                      | ASTM D1709  | 160           | g                 |

<sup>1</sup>Product is controlled by Flow Index. Melt Index is estimated for customer use.

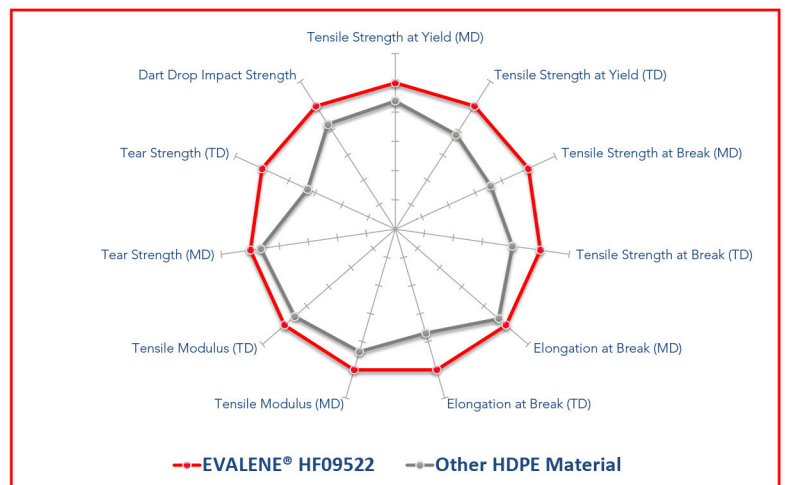
\*Properties tested on 25µ films as extruded on 60 mm die, 3.2:1 BUR, at 12 - 17 m/min take-up speed.

Tensile and tear properties are in machine and transverse directions (MD / TD).

### Typical Processing Conditions

|                        |              |
|------------------------|--------------|
| Extrusion Temperatures | 180 - 230°C  |
| Blow Up Ratio          | 3 - 5        |
| Die Gap                | 0.8 - 1.3 mm |

Figure 1. Mechanical property performance of EVALENE® HF09522 vs. other HDPE material



**EVALENE® HF09522** delivers benefits to the converter and the end-user alike. Its overall superior mechanical properties over the other HDPE material is evident in this side-by-side comparison. **EVALENE® HF09522** likewise exhibits outstanding stiffness-toughness balance which makes it suitable for a wide range of applications. Finally, **EVALENE® HF09522** has at least 10% advantage on tensile strength over the other HDPE material, opening up opportunities to downgauge. Because of this superior tensile strength, higher load-bearing capacity can be expected from a bag made of **EVALENE® HF09522** which is a major advantage for a grocery, shopping or any other carrier bag.

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