



AP- Nylon Materials

Application sheet 05

Nyrim® Trailer mudguards

Brüggemann Chemical provides raw materials for three distinct families of **AP-Nylon** (polyamides produced by **Anionic Polymerization**) used in a wide range of applications.

Mechanical properties of these AP-Nylons extend from thermoplastic polyamides into rubber-like elastomeric materials.

AP Caprolactam along with different catalyst systems (**Bruggolen® C**) leads to standard cast Nylon 6.

Nyrim® is elastomer toughened, recyclable, thermoplastic Nylon 6 for industrial Reaction Injection Molding (RIM), Injection Molding and Rotomolding applications. Nyrim® usually contains 10-40% built-in elastomer, depending on the specific performance needs.

The stiffness / toughness combination of Nylon-6 and elastomer gives excellent impact resistance, wear resistance and repetitive load (fatigue) endurance.

Nyrim® can be selectively reinforced with glass fiber or glass mats and can also be filled with mineral fillers.

Star-Rim is a toughened Nylon suitable for RIM processing. It can also be reinforced with glass or filled with mineral fillers.

RIM processing is the preferred method to manufacture large, complex or thick parts. RIM processing allows for large design flexibility.

Pressures are lower than injection molding pressures, resulting in lower mold and manufacturing costs.

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Trailer mudguards are molded in both single and dual axle designs. The horizontal top section requires excellent heat sag resistance given outdoor exposure of the black-pigmented part. Suitable aesthetics are achieved on both the visible and reverse surfaces. The smooth surface minimizes mud and road salt buildup.

Although a high degree of stiffness is required to minimize vibration at highway speeds, the Nyrim material also gives excellent impact strength.

Relatively to competitive materials, the Nyrim based mudguards are far more resilient than polyester, SMC or fiber-reinforced plastics and considerably stiffer than RIM polyurethane elastomers.

Resistance to tear and crack propagation of Nyrim is also the highest compared to other materials like polyethylene or PUR.

Nyrim has proven to be cost / performance effective in this moderate volume application.

Important features for this application

Physical properties features

- UV resistance
- Pigmentable
- High stiffness
- Excellent toughness
- Excellent heat sag resistance
- Resistance to tear and crack propagation

RIM design features

- Cost effective aluminium tooling
- Large surface area with low clamping tonnage allows for dual cavity moulding