ChasePlastics®
Redefining Resin Distribution®

# DSM ENGINEERING PLASTICS STANYL® NYLON 46

Stanyl® is a high-performance polyamide 46 that provides unmatched performance and value across a broad range of applications. It offers easy processing and design freedom due to its unique set of properties, including the highest retention of mechanical properties at elevated temperatures, excellent wear and friction, and outstanding flow.

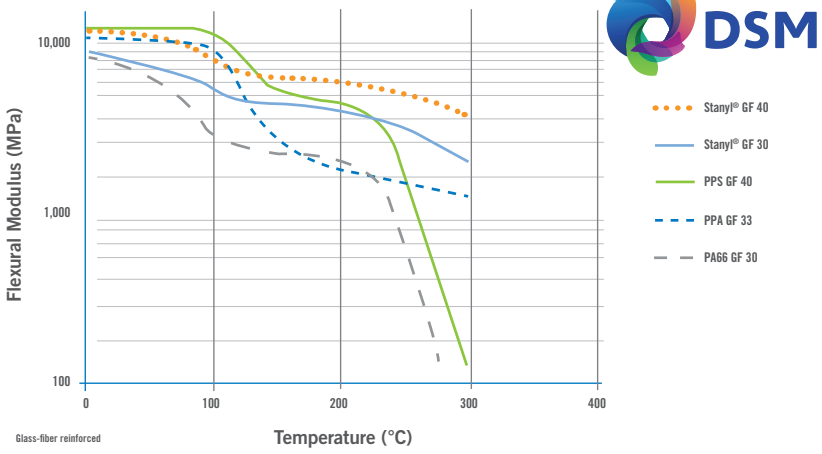
## PRODUCTS OFFERED

- **STANDARD GRADES:** Unfilled grades are available in different viscosity levels and fiber-reinforced grades up to 60 percent
- **IMPACT-MODIFIED GRADES:** Unreinforced to 30 percent, glass-fiber reinforced
- **FLAME-RETARDANT GRADES (UL94 V-2 AND UL94 V-0):** Unreinforced to 45 percent, glass-fiber reinforced (and up to 50 percent glass-mineral reinforced)
- **WEAR-RESISTANT GRADES:** Addition of PTFE additives, carbon fiber (up to 30 percent filled), MoS2 and aramid fibers
- **HIGH FLOW AND SUPER FLOW:** Super-high-flow versions of many of the aforementioned products

## CHARACTERISTICS OF STANYL®, THE WORLD'S MOST VERSATILE HIGH-TEMPERATURE THERMOPLASTIC

- **MECHANICAL PROPERTIES:** Stanyl® offers the highest mechanical property retention at elevated temperatures (see graph). In addition, it retains an outstanding level of stiffness, due to its high crystallinity, at temperatures close to its melting point.
- **THERMAL PROPERTIES:** Stanyl® has temperature resistance similar to high-heat materials, such as PPS, PPA, PEI and LCP; it outperforms that of well-known PA6 and PA66, as well as polyesters across a full temperature range.
- **WEAR AND FRICTION:** Stanyl® features excellent wear resistance and outperforms most high-performance engineering plastics under most conditions. Stanyl® performs especially well at high ambient temperatures, high-velocity/high-interface temperatures, and high load conditions, as well as in abrasive conditions or those requiring toughness and non-brittle behavior.
- **CHEMICAL RESISTANCE:** Stanyl® offers high resistance to many chemicals, including fuels, greases and oils, at elevated temperatures.
- **ELECTRICAL PROPERTIES:** While these are highly grade-dependent, DSM EP offers Stanyl® products with low and stable dielectric constant at high frequencies: arc resistance, high voltage tracking rate, HWI, etc.

**Flexural modulus versus temperature**




- **FLAME RETARDANT:** A number of flame-retardant products are available with UL94 V-0 ratings even at 0.35mm (0.01 in).
- **PROCESSING:** Stanyl® has outstanding flow for easy processing and design freedom (thin-walled applications). Stanyl® High Flow and Stanyl® Super Flow are available for your most demanding flow requirements (see spiral flow length chart on back page).

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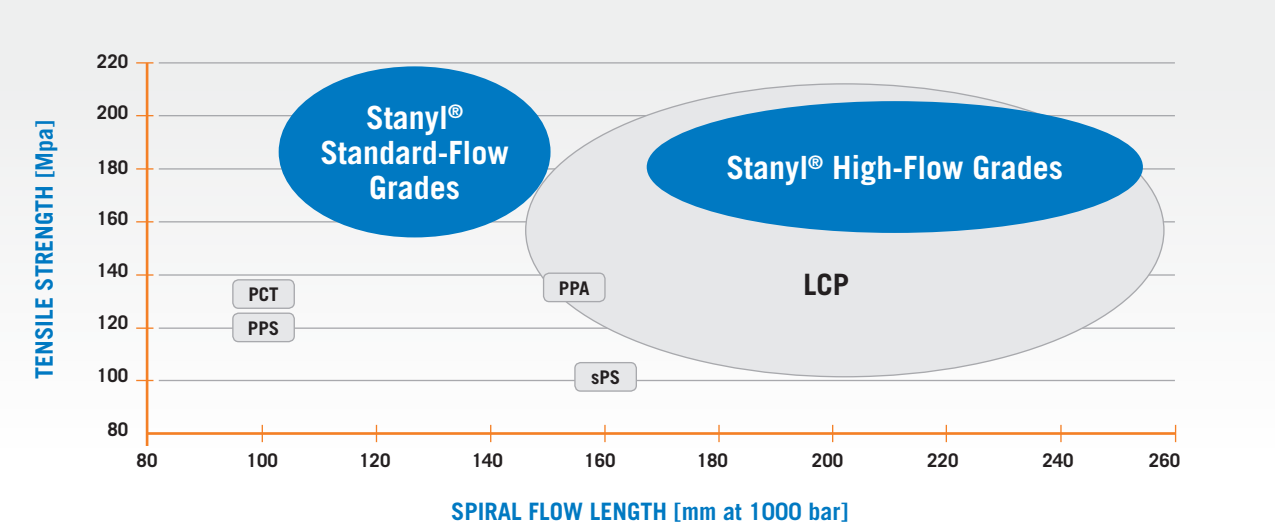


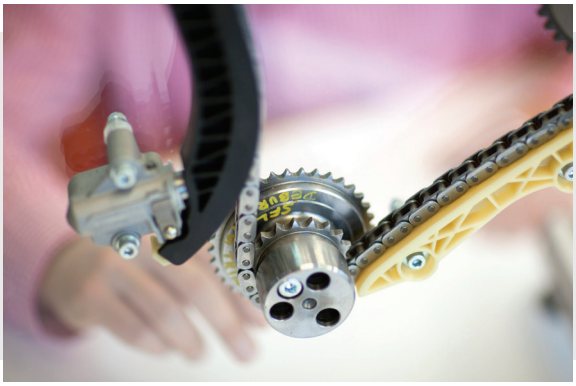

## TYPICAL APPLICATIONS

- Metal replacement
- Engine
- Transmission
- Air/fluid
- Electrical connectors and electrical components
- Gears
- Bobbins
- Engine components
- Fasteners
- Wear and friction/sliding applications, including gears, bearings, cages, bushings, guides, and chain and belt guides
- Pumps
- Actuators
- Food and material handling
- Home and garden

## LATEST STANYL MATERIALS

### Stanyl® ForTii™ (Electrical/electronic and metal replacement)

Stanyl® ForTii™ meets market trends that call for miniaturization and the convergence of electronic devices. It offers a unique balance of properties, including excellent dimensional stability, compatibility with lead-free soldering, high stiffness and mechanical strength at elevated temperatures, high melting point, and excellent processability with easy flow and wide processing window. Stanyl® ForTii® is available in halogen-free flame-retardant grades that are UL 94 V0 recognized.

### Stanyl® Diablo

Revolutionizing performance under the hood (UTH), Stanyl® Diablo is proven to extend the life of UTH components, such as air ducts and turbochargers, through its ability to provide outstanding heat resistance and long-term stability for 5,000 hours in temperatures above 200 degrees Celsius. Stanyl® Diablo is superior to current polyamides, which typically begin to lose mechanical properties with long-term exposure to temperatures above 190 degrees Celsius.

Do you have a demanding application or project that would benefit from Stanyl? Contact Chase Plastics to learn more about our unmatched product line and portfolio of value-added services.

**Call (800) 23-CHASE**

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