



**SOLVAY**

asking more from chemistry®

**PROTECT**

ENGINEERING PLASTICS SOLUTIONS

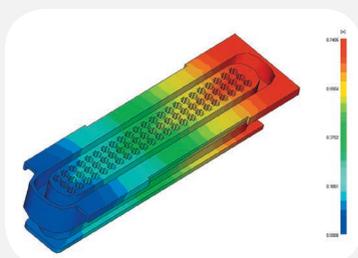
FIRE  
PROTECTION  
by **TECHNYL**®

# FOUR STEPS FOR SUCCESS

## PRELIMINARY MATERIALS SELECTION

# 01

Our technical teams work closely with your development teams, offering their expertise early on in your projects to best meet the fire resistance requirements of your products.



Our technical teams are at your service with advanced design capabilities, notably leveraging MMI Technyl® Design predictive simulation tools and services for modeling the behavior of thermoplastic parts. In addition, Sinterline™ Technyl® Powders for your 3D prototyping needs achieve cost efficiency and optimizes development time.

## DESIGN SIMULATION & PROTOTYPING

# 02

## CERTIFICATION

# 03

Solvay Engineering Plastics offers UL-certified testing in-house (UL 746A in France and China), with technical teams ready to share their experience and expertise, and help you obtain the best material certifications.



By providing local support around the world, our experts help all customers meet their own specific requirements. Leveraging a global network, these dedicated teams offer adapted range of products and services.

## CUSTOMER SUPPORT

# 04



FIRE PROTECTION by **TECHNYL**<sup>®</sup>

## PROTECTING PEOPLE

There's no room for risk when it comes to fire protection and safety in electrical and electronic products. To serve this critical sector, Solvay Engineering Plastics has developed a complete range of polyamide flame-retardant solutions for applications ranging from construction, lighting, and renewable energies, to electronic consumer goods, household appliances, transport, and more.

With unparalleled electrical performance, molding options, and mechanical strength, Technyl<sup>®</sup> halogen-free polyamides have demonstrated their value in a world impacted by increasingly demanding safety standards.

Technyl<sup>®</sup> combines functional efficiency with aesthetic qualities, integrating Solvay's technical expertise and local presence worldwide with an innovative approach that meets the customer's requirements.

## MOVING TOWARDS A SAFER WORLD

Market leaders today continue to develop smaller and more complex parts to support product miniaturization and multi-functionality. To satisfy this requirement, the materials used must offer high temperature resistance and efficient flame retardancy.

The use of polyamide in electrical and electronic equipment has increased consistently, benefiting from strong demand and substitution of metal and thermosets. Technyl<sup>®</sup> materials are now present in nearly every household, in applications from mixers to washing machines, and in industrial devices such as connectors, contactors, circuit breakers, switches, and more.

Moving forward in a safer world also means working diligently for a cleaner environment. With its Technyl<sup>®</sup> halogen-free polyamides, Solvay Engineering Plastics reaches beyond industry standards and strict regulatory requirements to proactively reduce ecological impact and anticipate change.

# REASONS TO CALL THE TECHNYL® FORCE

**PERFORM  
TO HIGH SAFETY  
STANDARDS**



Bus seat  
made of Technyl®

Technyl® satisfies the strictest regulations driving the electrical equipment market, notably UL and IEC certification, Fire and Fume certification, and requirements such as UL 5VA and f1 rating for photovoltaic applications. We offer in-house UL testing and certification services in both Europe (France) and Asia (China).



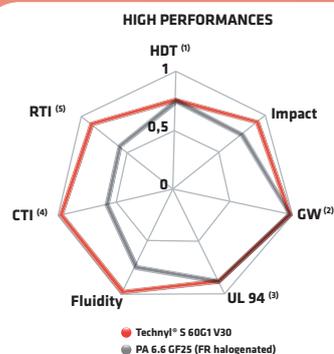
**ENJOY HIGH  
PERFORMANCE**



Mini circuit  
breaker made  
of Technyl®

Technyl® materials combine optimum mechanical and electrical usage properties with superior flowability. This enables manufacturers to create smaller and more complex parts while pursuing product miniaturization.

<sup>(1)</sup> HDT: Heat Deflection Temperature, <sup>(2)</sup> GW: Glow Wire;  
<sup>(3)</sup> UL 94: Flame test; <sup>(4)</sup> CTI: Current Tracking Index;  
<sup>(5)</sup> RTI: Relative Thermal Index



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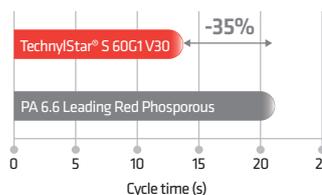
**PRODUCE  
EFFICIENTLY**



Connectors made of TechnylStar®

Our halogen-free polyamides are developed to be less corrosive than traditional fire resistant materials, which increases production equipment lifetimes. The high flow TechnylStar® features high fluidity even at low temperature to further reduce cycle time and machine wear.

**DECREASED CYCLE TIME  
FOR SMALL APPLIANCE PARTS**



**RESPECT  
THE  
ENVIRONMENT**



LED housing made of TechnylStar® LED

Technyl® products comply with both directives regulating environmental waste management for the appliance market in Europe: RoHS<sup>1</sup> 2002/95/CE and WEEE<sup>2</sup> 2002/96/CE. Solvay performs detailed life cycle analysis with clients to evaluate and optimize their products' environmental impact.



<sup>1</sup> Restrictions on using certain Hazardous Substances;  
<sup>2</sup> Waste management of Electrical and Electronic Equipment.

# INNOVATION IN ACTION

## TECHNYL® ONE

Technyl® One is a new polymer technology patented by Solvay that effectively yields high temperature performance while offering distinct advantages to avoid tool corrosion and increase processing stability.

### Main benefits for customers

- Market-leading electrical performance
- Performance processing even at low temperatures
- Low corrosion for tools and injection equipment

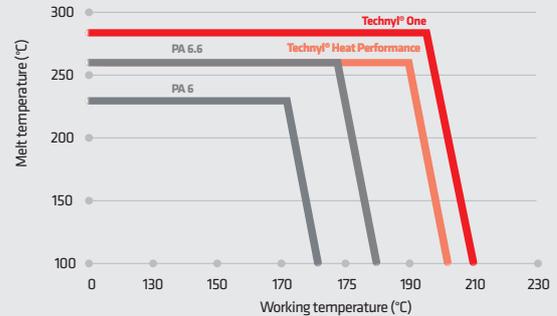
### Product properties

- Yellow card available with the highest RTI rating at 150°C, at 0.4mm wall thickness
- High fire rating class: UL94 at 0.4mm, 600V CTI, GWFI 960°C at 0.8mm
- 30% higher dimensional stability than standard polyamide due to significantly enhanced moisture resistance
- Excellent surface aspect, even for 50% glass fiber reinforced materials
- Specific color tailoring upon request

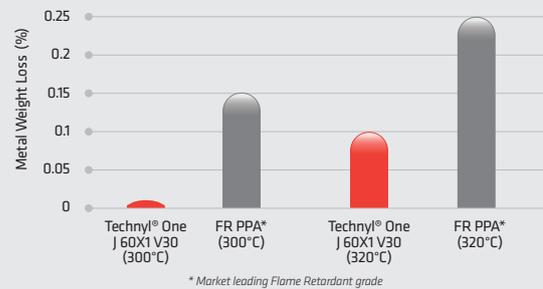
### Applications

Electrical protection devices requiring product miniaturization and multi-functionality such as high-range miniature circuit breakers (MCB), molded case circuit breakers (MCCB), contactors, and all applications that require high electrical performance.

### THE MOST EFFECTIVE COMPROMISE BETWEEN MELT & WORKING TEMPERATURE

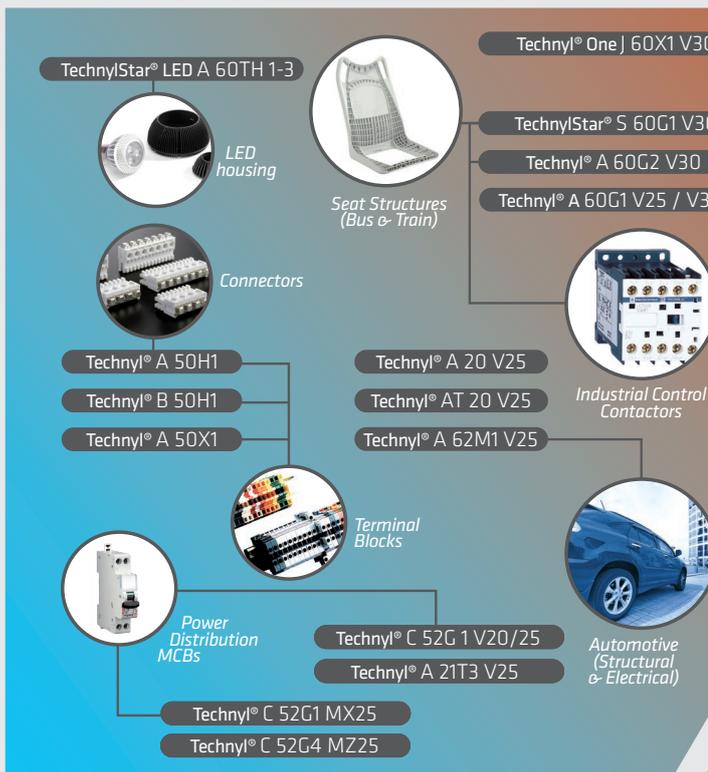


### LOW PROCESSING EQUIPMENT CORROSION



# STRENGTH FROM THE INSIDE

## MECHANICAL STRENGTH





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