



## Carbody chooses brand new Technyl® Max to develop all-polymer brake pedal

*Innovative high rigidity Technyl® range for lightening semi-structural parts  
Exceptional resistance to fatigue and high frequency vibrations of electric vehicles  
Used in the first brake pedal without a metal core*

**Lyon, France, Oct. 16, 2019** – Solvay Performance Polyamides’ new and advanced Technyl® Max polyamide 6.6 (PA6.6) technology was chosen by Carbody, expert in safety and sealing solutions for the automotive industry, to develop its all-plastic brake pedal. Designated ‘Skeleton’, the revolutionary pedal concept made in Technyl® Max replaces conventional steel design with a lightweight hybrid structure.

*“Automotive OEMs and Tiers are increasingly looking for high rigidity materials to substitute a range of metal components for the lightweighting of new energy vehicles,”* comments Gérald Durski, Marketing Director for Solvay’s Performance Polyamides. *“It was a great opportunity for us to co-design Skeleton in close partnership with Carbody, demonstrating the performance of our brand new highly-filled Technyl® Max”.*

Skeleton features a rod-shaped composite structure which is over-molded with 60 percent glass-filled new Technyl® Max technology. This provides the Skeleton brake pedal superior fracture resistance under loads up to 3.000 N and even maintain its operational safety beyond that limit. In regards, the average force applied in case of emergency brake is around 500 N.

*“The strength of this new Technyl® Max was instrumental in maximizing lightweighting for our unique pedal concept,”* explains Loïc Lefebvre, R&D Expert at Carbody. *“We have been relying on Technyl® team’s expertise in metal replacement for many years; their upgraded HUB advanced service platform is a key differentiation lever to optimize design and performance for demanding safety parts.”*

In addition to car pedal systems, the new Technyl® Max targets semi-structural components such as transmission and motor mount cross beams, air shutter grills and seat structures. Its low density offers significant weight savings over typical die-casting metals at comparable tensile strength. This is of importance for applications in EVs which require even greater rigidity and fatigue resistance due to higher frequencies.

This co-development is backed by the Technyl Force extensive experience in metal replacement. Unveiled at K 2019, HUB by Technyl® is a unique platform - which includes MMI® Technyl® Design<sup>1</sup> predictive simulation - that connects together advanced services to provide customer innovation with enhanced capabilities and synergies for eco-design agility and cost optimization.

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<sup>1</sup> MMI® Technyl® Design is an advanced service powered by Digimat® from e-Xstream, an MSC Software Company.

**Solvay** is an advanced materials and specialty chemicals company, committed to developing chemistry that addresses key societal challenges. Solvay is headquartered in Brussels with around 24,500 employees in 61 countries. Net sales were €10.3 billion in 2018, with 90% from activities where Solvay ranks among the world's top 3 leaders, resulting in an EBITDA margin of 22%. The Technyl® business is part of Solvay Performance Polyamides, a global business unit which is in the process of being acquired by major players in the industry.

For 66 years, the **Technyl®** brand supplies innovative polyamide 66-based solutions for automotive, electrical and electronics, construction, consumer goods and other markets. Leading expertise combining high performing products and advanced services are enabling the Technyl® Force to bring well-recognized added value to the industry.

Learn more about the Technyl® brand at [www.technyl.com](http://www.technyl.com), and follow us on [LinkedIn](#) / [Twitter](#) / [Facebook](#) / [YouTube](#).



**Carbody** develops and manufactures plastic, rubber and foam products. Our engineering competences include materials, structural analysis, critical sealing, acoustic components all supported by process development. We have in-house competencies for material development, digital simulation and testing to develop competitive Taylor made solutions. Thanks to our advanced manufacturing expertise and the utilization of Robots supported by camera verification, we can offer a fully automated process leading to products with virtually no labor cost. CARBODY also leverages its experience, knowledge and expertise on other products and is a leader in pedal systems, air extractors, plugs and steering column seals.

The Carbody culture is focused on engineering competencies, along with values based on responsibility, engagement and continuous innovation, both within the company and with its partners. We set ourselves as an engineering solution provider. Learn more about Carbody at [WWW.CARBODY.EU](http://WWW.CARBODY.EU), and follow us on LinkedIn.

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**TECHNYL**  
**MAX** 

Carbody brake pedal made with Technyl® MAX.

New Technyl® MAX - the high-rigidity material for semi-structural light-weighting.