

**Let's talk
solutions.**



A fast-paced industry landscape demands new ideas and solutions every day.

Markets emerge, businesses transform, processes change. At Technoform, we unleash the full potential of people and their ideas across a global network to meet today's challenges in partnership with our customers – system designers, R+D engineers, project developers, construction planners, and architects – from the desert of Dubai to the Rocky Mountains of Canada. This makes us more than just a leading B2B company. We are a people-to-people company. People with a passion for plastics solutions.



In plastics extrusion we excel.

Simply mentioning that we specialize in plastics extrusion is quite an understatement. Technoform offers an array of unrivaled tailored and standard plastic solutions for a great number of industries all across the globe. This spans from thermal edge bond solutions for architects, building planners, and manufacturers of insulating glass units (IGUs), a vast range of insulation solutions for aluminum windows, doors, and facades, to high-precision custom designs and system components for the automotive, aviation, and electrical engineering industries – just to name a few.

Curious? We all, more than 1,400 employees, invite you to browse through this brochure and find out how we can support your business.

Part of your business

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01

Part of your business

We don't just supply parts. We develop partnerships.

It's almost unthinkable to count how many products we're in. Our job is to supply our customers with needed parts to manufacture their products – parts made of high-precision thermoplastics and individually designed for various demands.

But we don't spend much time making up fancy names for them. The most important name you probably need to know is of your personal contact at Technoform – right from the start to find the best solution, throughout the entire execution to ensure highest quality and service, and far beyond the current project to inspire new opportunities. That's how we understand our part. So let's talk solutions, together.





“Since our foundation as a family business in 1969, we have remained independent and continue to live our promise: making our customers’ needs the focus of our ambitions.”

We get things done.

The Technoform principle

- D** **deep understanding.** Knowing what drives customers and markets, we develop leading solutions collaboratively.
- O** **n-site service.** Always being close to you, we are quick at making decisions where they matter most.
- N** **etwork of experts.** Building on flexible and local networks worldwide, we provide the right team at the right time.
- E** **xecution excellence.** Thanks to five decades of experience, you can rely on the best package of quality, quantity, time, and price.

02

Cutting-edge materials

When trillions of granules become a billion feet of high-precision plastics.

Granules in, plastic profile out – extrusion is pretty simple. But high-precision manufacturing combined with long-term expertise makes all the difference. Our specialized extrusion process enables various material mixtures and properties, even those you would usually not expect, and outstanding precision which would be unthinkable in standard extrusion without reworking.

One of the few global family businesses, we run 14 production sites worldwide extruding three billion feet of high-precision plastic profiles and tubes every year – that’s twentyfive times around the earth, that’s No. 1 in our markets, and beyond that it’s our 24/7 aspiration for setting new benchmarks in terms of reliability and sustainability. To us, extrusion means more than just transforming granules – it means shaping the future.

44,000 t

plastic granules per year are processed into leading plastic solutions

3 billion ft

high-precision plastic profiles and tubes manufactured annually make us the leader in our markets

Others just add fibers. We add value.

When you're looking for experts in various materials and specialists in specific plastics – say hello to our team.

Our unique high-precision extrusion process allows us to form the most complex plastics – including those typically only suitable for injection molding. We process compounds with short or long fibers of different materials such as glass, carbon, or minerals – even with high filling grades.

In combination with a variety of different base polymers, various outstanding material properties are possible, including electro-conductive plastics, heat conducting plastics, and plastic profiles with micro-hollow chambers – the choice of modifications is virtually unlimited. So when you think plastics, think Technoform.

› **Ask the extrusion specialists:** A high grade of filler like 20, 30, 50, or more percent is often needed to create desired properties. With our own high-precision extrusion process we achieve a consistent overall quality like injection molding – even with filling grades up to 85 %, depending on the material and filler. Are you looking for a specific modification? Ask us. We're happy to make it possible.

4 %

of antimicrobial additive added to PA6 create antimicrobial handrails and door handles for hospitals and nursing homes

25 %

glass fibers added to PA6.6 create thermally insulating and solid profiles for the thermal break in windows, doors, and facades

40 %

carbon fibers added to PA6.6 create strong and bend-resistant supporting tubes in aircraft

70 %

graphite added to PP create thermally conductive heat exchanger tubes for industrial applications

85 %

tungsten added to PA6 create shielding for X-ray apparatus in medical and industrial applications

How we made plastics better than metal.

We grew with our customers by continuously adapting our processes and products to meet individual demands. As a result, we are proud to offer outstanding technical characteristics that go far beyond the ordinary: Extremely smooth surfaces, uniquely sharp contours, the lowest tolerances, the highest precision, and various custom material properties you would not usually expect from a plastic solution.

Lower Lambda to reduce overall depth of aluminum systems? Optimized paint adhesion for a better visual appearance? Seawater-resistant solutions to prevent corrosion? No big deal. Where metals like aluminum or steel run up against their limits, we get right to the bottom of things – and come up with a new solution. And we never stop finding new ways to improve.

- 1 Insulating profile for (aluminum) windows, doors, and facades**
Thermal break and mechanical stability
- 2 Dissipation of inductive currents**
Electrical conductivity
- 3 Blind rail for sunscreen in automobile**
Low tolerances (+/-0.05 mm)
- 4 Supply tube in aviation**
High strength (>25 GPa)
- 5 ESD-neutral structural profile**
High filler content (>50 %)
- 6 Frame profile in machine construction**
Internally calibrated hollow chambers
- 7 Cooling element for LED light element**
Thermally conductive, electrically insulating
- 8 Sliding profile for automobile sunroof**
Smooth surface, good sliding properties
- 9 Holder and cover profile for switch cabinets**
Optimized for V-0 fire protection
- 10 Guide rail for a shelf system**
Metal-inlays for electrical conductivity
- 11 TGI-Spacer Precision**
Warm edge spacer for insulating glass
- 12 Reinforcement profile for deep-sea pipe bundle**
No cavities

> Discover more: www.technoform.com/materials

03

Leading solutions

Know how.

Impossible - you'll probably never hear that word from us. Because extrusion is easy when you have the right tools. They are the centerpiece of our work, and the very heart of your project. All tools are manufactured by our own engineering experts and material specialists. This allows you to rely on the highest precision and consistent quality - no matter when or where. And this allows us to push the limits of extrusion. Sometimes far beyond what's possible.

4,000 tools

have been manufactured over the years by our **own toolmakers**

Right now.

By identifying and embracing your individual challenges, we can design the exact solution to meet your demands - whether standardized or individually tailored profiles, whether a single order for 10 ft or several million every month. This is how we aim to shape the future of industries. And to shape your very unique solution.

50 years

of expertise make us the perfect partner for your **tailored and standard plastic solutions**

04

Enabling industries

We'd love to innovate your industry.

After originally starting its business in tailored plastic profile solutions, Technoform has always opened up new business fields – and still does.

Providing holistic know-how and technical expertise, we are a trusted partner and problem solver for various industries today: from construction and insulating glass to automotive and aviation, from oil and gas to wastewater treatment and seawater desalination.

Our promise: consistently high quality and the fastest delivery times, from the initial idea to the first sample, from the pilot to serial production. Are you looking for a plastics extrusion specialist? We make your task our own.



Automotive



Aviation



Chemical Industry



Construction



Electrical Engineering



Insulating Glass



Lighting



Machine Construction



Oil & Gas



Power Generation



Railway



Seawater Desalination



Shipping



Ventilation/
Air Conditioning



Windows/
Doors/Facades

› Haven't found your industry? Ask us. For more inspiration, browse through the following solution stories.

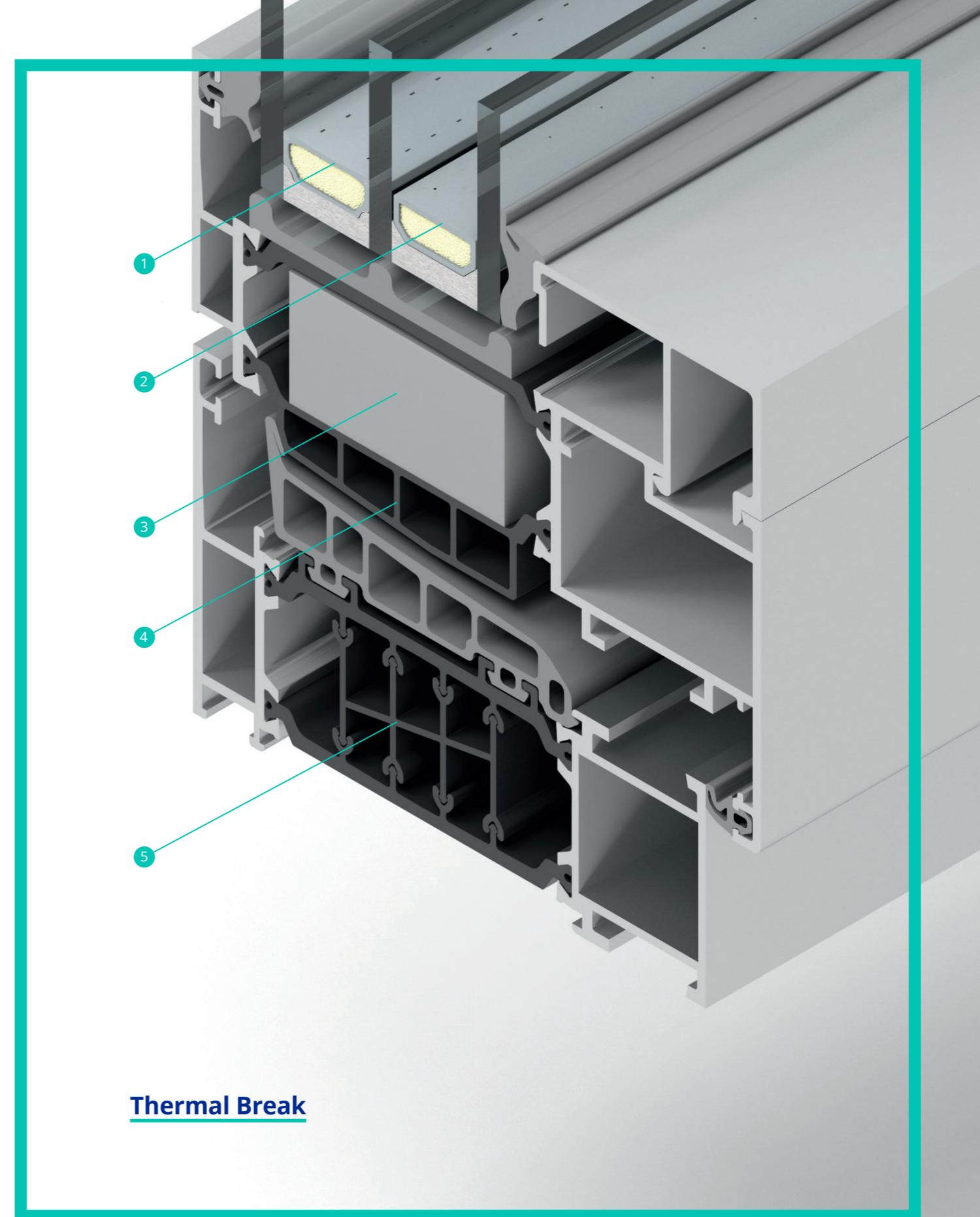


Insulation solutions for
windows, doors, and facades

Heat? Cold? Have a break.

Without insulation, aluminum windows, doors, and facades transfer heat and cold, leading to a huge loss of energy. This is where our high-precision insulating profiles come into play. Connecting aluminum panels of any kind, while keeping mechanical performance at the highest level, they prevent direct exchange of heat and cold – and create the “thermal break”. The result: minimized thermal conductivity, optimized efficiency, and a better energy footprint. Simply put, we keep heat and cold outside and a comfortable climate inside – and energy costs low.

- 1 **TGI-Spacer M**, a high-stability warm edge spacer for insulating glass
- 2 **TGI-Spacer Precision**, a precise warm edge spacer for insulating glass with outstanding thermal values
- 3 **Insulating profiles with PA foam** for preventing heat convection and radiation
- 4 **Insulating profiles with hollow chambers** for better stiffness and for filling frame cavities
- 5 **Package solution** with the best mechanical stability to decrease convection and radiation



Thermal Break



Thermal edge bond solutions
for insulating glass

Warm edge? Cutting-edge.

Outstanding efficiency, durability, and design start with Technoform. Insulating glass units (IGUs) are needed to build energy efficient buildings and have a positive impact on indoor comfort and quality. Incorporating our hybrid plastic spacer between the glass panes improves the thermal performance of the IGUs and keeps energy losses low – no matter how high you plan to build.

In addition to improving thermal performance, our technology ensures the durability of the glass unit. It is also available in many colors to match the glass or frame beautifully, or create a vibrant contrast in line with the building designer's vision.

Our products help to save approximately 1.5 billion kWh of energy per annum, significantly reducing the global level of CO₂ emissions.

- 1 TGI-Spacer M
- 2 TGI-Spacer Precision

Warm Edge



“The goal of the Deloitte Tower in downtown Montreal was to be a role model of sustainable building design in an urban area. Therefore, it was necessary to meet the highest standards of energy efficiency. The challenge was allowing plenty of natural daylight through a lot of glass in the building, in order to reduce electric light usage, while also controlling heat loss and gain. So the design needed an intelligent solution for highly insulated elements. We found that solution. The combination of Technoform’s hybrid plastic spacers in the insulating glass units and our insulating profiles in the thermally broken window and facade systems helped achieve the goal. The Deloitte Tower earned the highest accomplishment: a LEED® Platinum certification.”



Brian Stephens,
Market Team Manager

**We work on the
world of tomorrow,
with solutions that
already impact
today.**





Plastic heat exchanger tubes for
seawater desalination

Fighting corrosion. Won.

Ensuring a safe and plentiful supply of drinking water is one of humanity's greatest challenges. We took on a task that was considered impossible: to replace metal in the seawater desalination process with reliable, residue-free, and environmentally friendly heat exchanger tubes made of plastics. After an extensive megatrend analysis – and three years of intensive research and testing – our skilled team presented a competitive material with heat conductivity properties similar to stainless steel.

The solution is a compound of polypropylene (PP) with a 70 % graphite filler obtained from an innovative and complex high-precision extrusion process. The developed PP-graphite compound has no corrosion problems with highly saline water, even at temperatures above 90 °C. Its special design and extremely smooth surface reduced fouling and scaling by an unbelievable 98 %, practically eliminating the previous issues.

- 98 % fouling and scaling

through our high-precision heat exchanger tubes, which make seawater desalination more efficient and – without needing additional chemicals to delay corrosion – contribute to **cleaner oceans**



Plastic heat exchanger tubes for
seawater desalination

“When we performed the first tests on the innovative plastic-graphite tubes to determine their fouling and corrosion tendencies, they scored higher than expected. The amount of deposits that adhere to the surface of the plastic was almost zero. This means that we only use a small fraction of the chemicals once needed to clean the plant, dramatically reducing what is rinsed out into the ocean. The particles of the filler material are almost completely incorporated into the plastic, with the plastic effectively acting as an adhesive. And unlike copper, graphite is not harmful to the environment or human health. The American Food and Drug Administration (FDA) even approved the use of PP-graphite with drinking water.”



Thomas Orth,
R&D Engineer

We scan the world
and create needed
products.



05

Always near you

We focus on you.

“As a family company, we know that people empower every business. We firmly believe that the best ideas are always born together – by listening to one another and exploring new possibilities as a team. This motivates us every day to deliver upon our promise: to provide sustainable solutions that improve our customers’ business success. Across all industries, around the globe.”



Andreas Caprano,
President

Understanding what drives customers and markets since 1969.

While many companies preach “customers first”, we have been practicing it since our foundation. Identifying and embracing the individual challenges of customers and markets is the key to all of our activities, and our secret to maintaining trustful partnerships that span many decades.

Performing 360° precision and 1,000+ skills.

We have five decades of experience in turning your needs into tailored technological solutions. With our extensive technical capabilities, highly trained team and company-wide knowledge sharing, we continuously improve to remain your trusted partner who ignites your ideas.

Proving 100 % reliability and quality on all levels.

We offer you the same level of high-quality services and solutions all around the world – from project management and customer service to communication. By constantly monitoring the quality of all our actions, we turn your individual challenges into reliable performance.

We are Technoform.

Delivering quantities from 1 to 1,000,000.

We offer the exact matching solution for your demand – whether you choose standardized products or an individually tailored extrusion profile. You can rely on receiving the best available package of quality, quantity, time, and price.

Building on flexible and local networks in over 40 countries.

Our global network of experts immediately responds to demands at the very place they arise – always considering local differences in markets and culture. In this way, we are always close to you and able to make quick decisions when they matter most.

5

decades of experience
in our field

45

sites ensure
continuous supply

40

different languages
in which we understand
your needs

1,400

and growing, dedicated
innovators work for you,
worldwide

1

of us is always
near you

We can't wait
to hear from you.

Find your personal contact at
www.technoform.com

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