

HIGH PERFORMANCE BUILDING

Bringing ideas
to reality

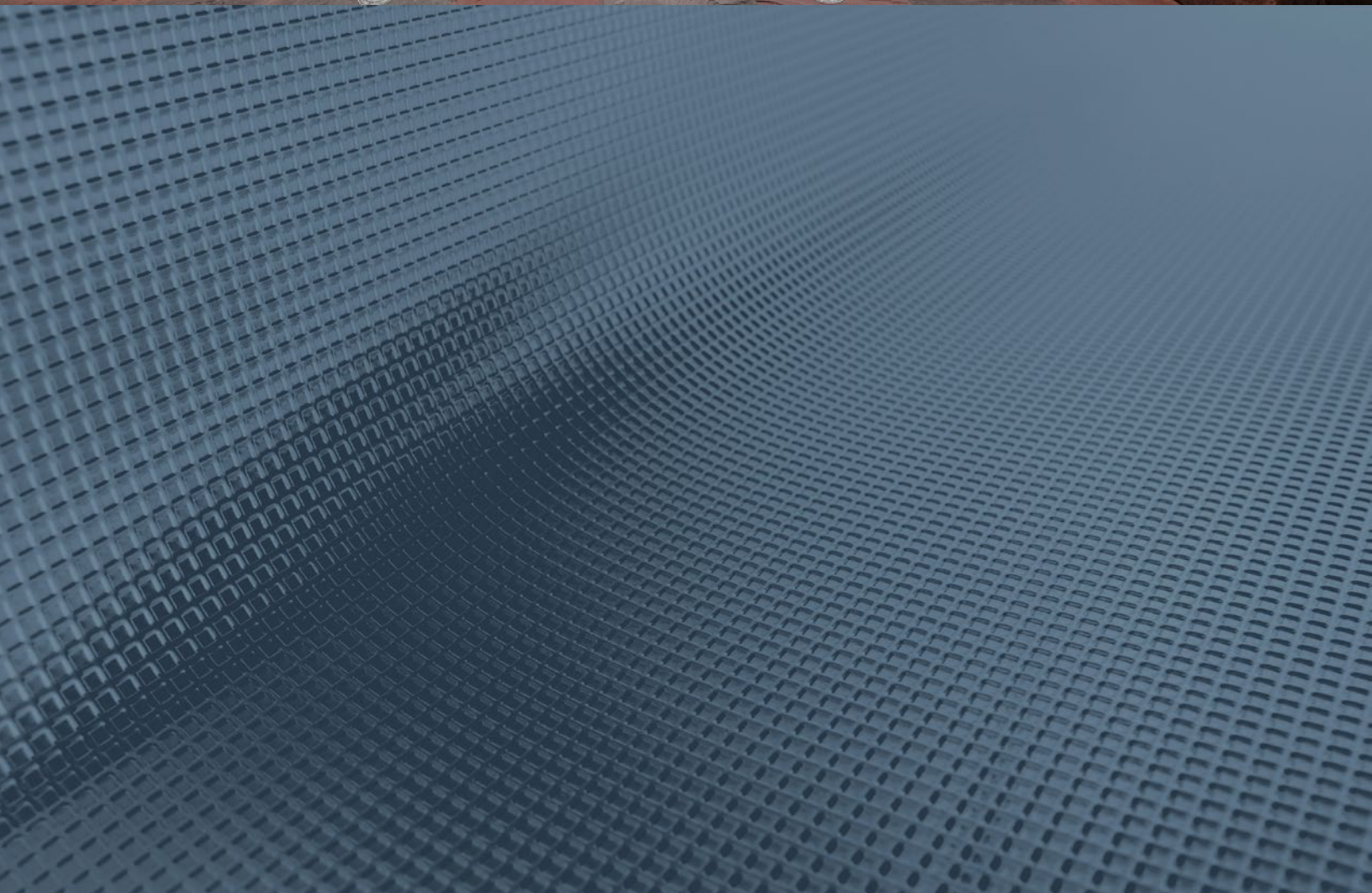
DOW

®





Museum ann de Stroom, Antwerp
Courtesy Scagliola / Brakkee / Neutelings Riedijk Architects



Creating space to live

high performance building solutions
from Dow

Our world needs space where creativity can flourish and ideas can be developed for future implementation. We provide technology which enables concepts to be transformed into living space in a way which is highly innovative, economical and optimized for maximum performance.

Grow beyond limits

with the global market leader in
silicones: Dow

High performance building solutions

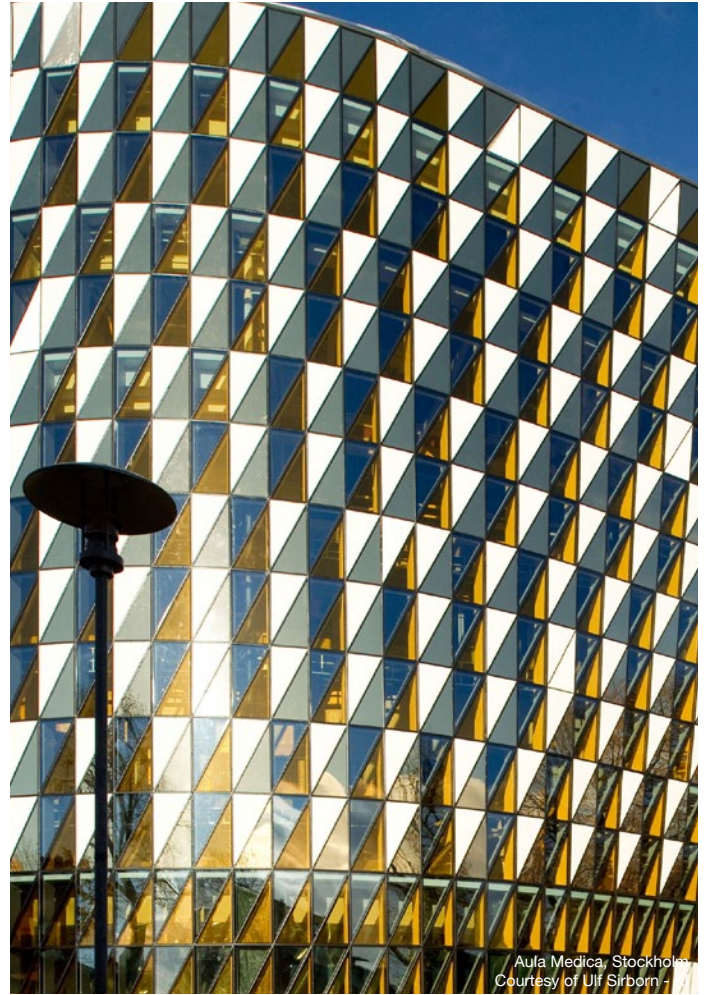
Dow is a global leader in the development of silicon-based adhesives and sealants for façade construction.

As the boundaries of architectural opportunity extend, our innovative solutions make a significant contribution toward optimizing the performance of modern architecture.

We help you to bring ideas to reality.

Our silicones enable the creation of diverse, secure, highly transparent and long-lasting glass façades.

Building façades constructed with our silicones are technologically advanced and are developed to meet the highest standards, contributing toward energy efficiency and sustainability.



Discover new perspectives

with new solutions for design and
performance from Dow

Design lends any building its own unique character, but in a changing environment, ecological and economic factors are also of ever increasing importance.

While balancing the need for desired aesthetics and sustainability, we continue to develop products and technologies to meet future needs which will bring together complex designs, colors and shapes. This contributes toward required energy savings, while being able to withstand the sometimes harsh and extreme environmental impacts of pollution and weather.

We aim to identify trends at an early stage to provide you and your customers with new perspectives for future design.





Structural glazing design under high loads.
Flame Towers, Baku
Courtesy of Farid Khayrulin, Design HOK



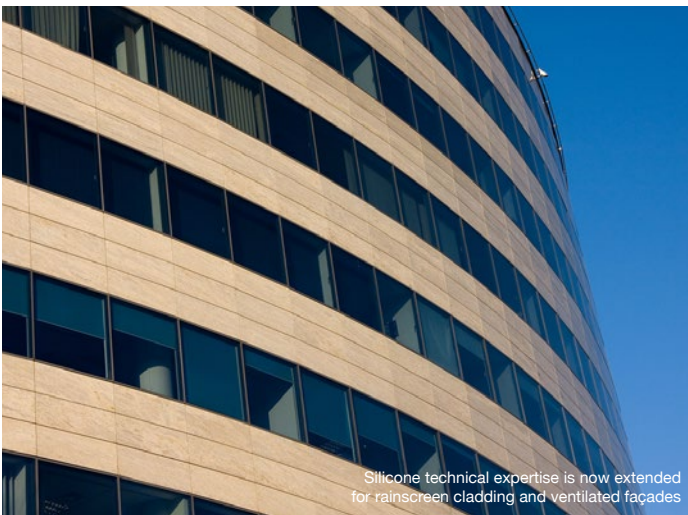
Crystal clear bonding: point-fixed structural glazing

Smart solutions for enhanced design

Smart engineering for structural glazing can enable high strength design, durability and performance in the most demanding applications. New and proven technologies, combined with state-of-the-art joint designs, help accommodate even higher loads and movement using well-established silicone materials in new slim joint designs. This supports architectural design trends toward increased glass, higher transparency, enhanced natural lighting and thinner mullions.

Our latest development also combines design and sustainability in a totally new way. Crystal clear DOWSIL™ Transparent Structural Silicone Adhesive (TSSA) makes point-fixed construction possible without penetrating the insulating glass, colored glass surfaces or functional coatings in the façade. This gives you a totally new dimension in design freedom and a significant increase in the durability of point-fixed, gas-filled insulating glass.

dow.com/crystalclearbonding



Silicone technical expertise is now extended
for rainscreen cladding and ventilated façades

Tailor-made for non-glass façade cladding applications, the DOWSIL™ PanelFix System is a completely new, highly durable solution for silicone panel bonding. With no need for mechanical support, panel fixation is invisible, permitting lower-weight, less expensive cladding options for increased design freedom and enhanced aesthetics.

dow.com/panelfix

“We are committed to providing best in class project support to our customers. This is powered by our global engineering expertise and our local services combined with our Construction Online project management system, as time and efficiency are key.”



Loriane Parisot, Global Technical Service
and Development Leader



Creating value for the future

through sustainable and innovative façade construction with Dow

Energy efficiency and the conservative use of raw materials are essential for high performance building and façade construction in particular.

Our silicone solutions enable long-lasting façades which have beauty in design, retain value and can help achieve the optimum energy performance. This protects our environment in the long term and can also reduce the life cycle costs of a building.

Create future value for your customers with silicones from Dow.



Meeting the challenges that matter most

Sustainability is about more than just being “green” on the surface. It’s also about ensuring solutions are durable over the long term – bringing huge commercial gains to customers, as well as affordability to their end consumers.

High performance building is a key area of focus, as we collaborate with customers to create more efficient ways to seal, insulate, light, power and protect buildings.

Silicones make existing materials work better, longer and more reliably. They also help manufacturers streamline production, save time, reduce costs and minimize environmental impact.

Silicone structural glazing – durability exceeding 50 years

Dow has a proven track record of more than 45 years in structural glazing. The first four-sided silicone structurally glazed building, 455 W. Fort St, Detroit, the “Grand Daddy of Structural Glazing” was built in 1971. Five years later the first four-sided structurally glazed façade was realized WITHOUT any mechanical retention.



These buildings are still functioning; however the fundamental question is, how long will these high performing silicones last?

Silicone structural glazing with DOWSIL™ sealants have been assessed in two different studies in Europe which indicate a longevity in excess of 50 years. One performance-based study combined service loads (e.g. wind, deadload) and aging at the same time – this was part of a German Research Project (MNPQ 22/10) sponsored by the Federal Ministry for Economic Affairs & Energy and led by the BAM Federal Institute for Materials Research & Testing. The outcome showed that the tested structural glazing silicone from Dow passes more than 50 cycles, each corresponding to 1 year in real service life.

In another practical approach, a 25 year old façade from the recognized ift-Rosenheim Institute was removed and examined according to the European structural glazing guideline ETAG 002. This guideline typically states a minimum 25 years of durability when severe test requirements are passed. As a result, the re-test for the 25 year old façade according to this European standard was passed and durability was proven for the next 25 years. This far surpasses 50 years longevity in total, and in proving another 25 years of durability, far exceeds this stringent industry standard.



St. Paul's Square, Liverpool
Hufton & Crow

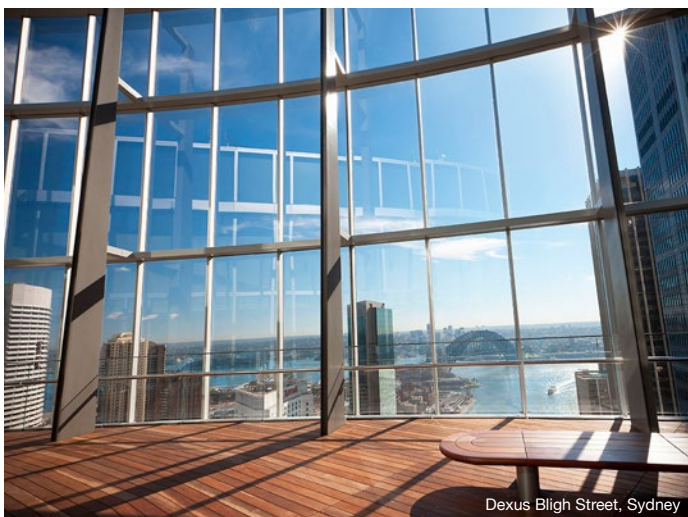
Protecting living space

with solutions for security applications from Dow

Buildings are not just places where we work and live. They also serve to protect people and assets from the negative impact of weather, catastrophes and attacks.

It is in precisely these types of challenging situations that the performance capabilities of DOWSIL™ products can be observed. When it comes to secure, specialist applications, our experience and unique technical capabilities are unrivaled.

For the protection of lives and property, trust the world-renowned expertise and experience of Dow.



Fire and explosion resistance

The physical stresses caused by fires are vast: extreme heat, especially when fire spreads explosively, pushes the building materials to their limits. The decisive factor in designing glass façades most resistant to fire and the massive forces from explosions lies in the composite materials used in the construction.

We have developed specialist silicones for use in fire protection applications which meet stringent European standards. In the event of fire or blast conditions, DOWSIL™ silicones help to maintain the integrity of façades which can provide a longer period of protection to occupants and to the building fabric.

Burglary protection

Specialist glass is available which helps to protect buildings against burglary. To maximize their protection resistance, it is critical that these types of glass are securely retained within the window frame.

A range of silicones for bonding the glass to the frame to achieve optimal protection has been developed by Dow, which play a vital role in contributing to the overall strength of the security glazing system.

Hurricane and earthquake protection

The negative effects of global climate change are becoming increasingly understood. Extreme weather conditions and natural disasters are also becoming more commonplace in areas which had previously been unaffected.



Larger buildings are being designed for resistance to the damaging effects of hurricane and tornado force winds and seismic activity. High performance silicones from Dow help to maximize the stability of façade structures when under extreme stress from nature.

Sound protection

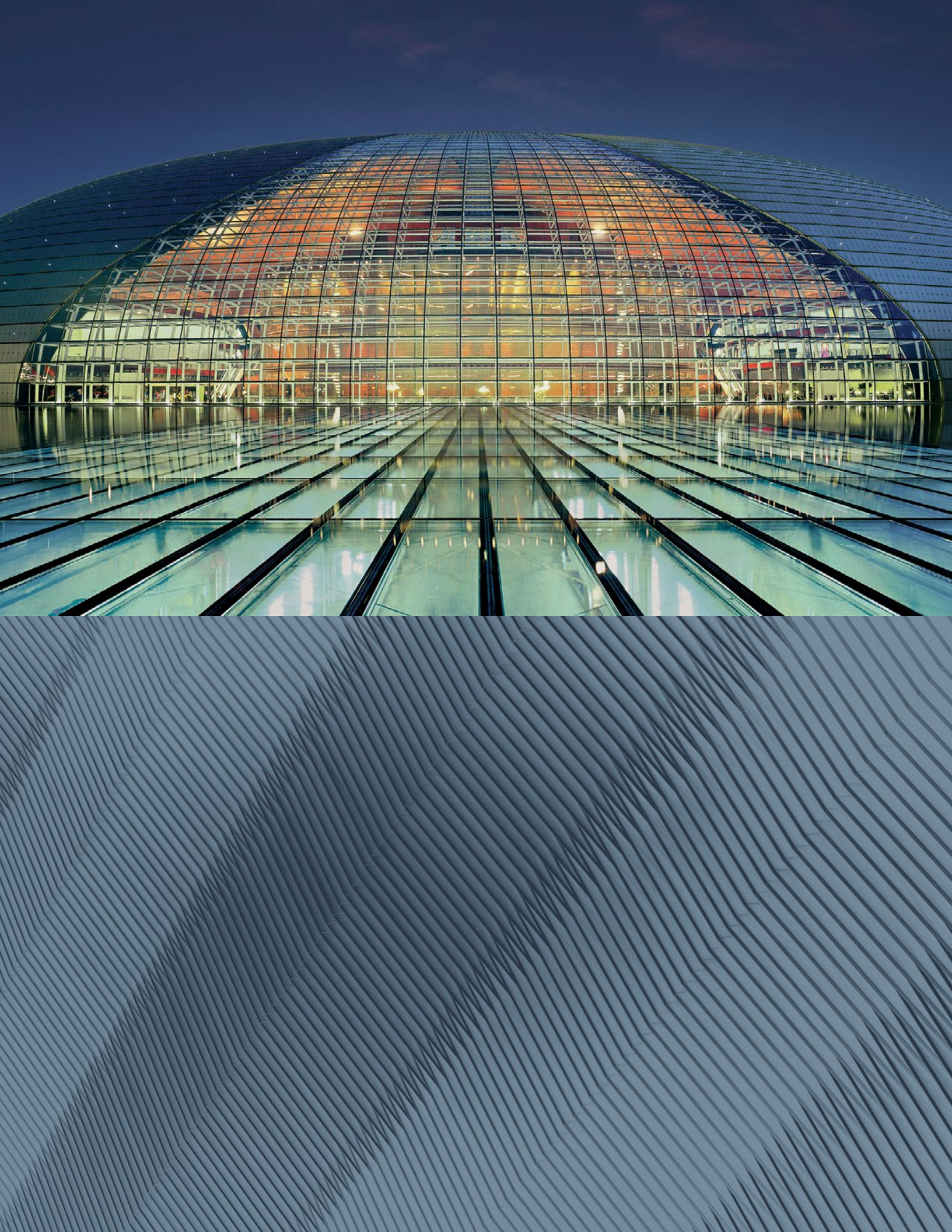
Unlike disasters and crime, noise is an everyday challenge in this day and age. Continual noise exposure negatively impacts health, performance and well-being.

Reliable and proven silicones from Dow help to effectively insulate against noise and to actively control any sound loads through specialist glass.



“Aesthetic and design, energy efficiency, total cost and safety are some of the trends challenging modern glass façades. We are working collaboratively with leading façade experts, fabricators and customers to drive our innovative silicone technologies into benefits for the entire value chain in high performance building.”

Jean-Paul Hautekeer, Global Marketing Director, High Performance Building Solutions



Redefining efficiency

with proven silicone technology from Dow

We know that your success greatly depends on fulfilling as many of your customers' requirements as possible in an economically feasible way.

This is why our range of silicones have been developed based upon customer needs, with a view toward increasing performance and efficiency.

With Dow, you can make even the most challenging construction projects a success thanks to our economic and creative solution set.

Appropriate for your needs

Our products have been developed to provide optimal performance when used in accordance with our recommendations.

These include a high strength silicone specifically designed for insulating glazing, which can be used to enhance productivity of the application process, due to smaller joint sizes. This releases time and enables cost savings.

Another example where economies can be gained is our newly developed trapezoidal joint design for structural glazing – a specific engineering solution for high rise buildings. This helps to achieve both sustainability and efficiency by enabling a significant reduction in the metal used in the façade, by up to 23%.

Our products even play an active role in reducing operating costs after building construction is complete by helping to utilize light and warmth, thus reducing energy costs in the long term.

Advanced processes for top performers

Efficient processes are paramount in enabling both you and your customers run a project smoothly and on time.

That's why we support you with our user-friendly COOL online (COstruction OnLine) planning tool during the planning phase and over the course of the project.

Among other things, COOL provides support for design planning, joint calculation, laboratory tests, service and warranty inquiries through an intuitive user interface. A modern and efficient way to manage your projects. Service and warranty inquiries are also accelerated and simplified considerably thanks to the project data stored in COOL.

To help you understand how to integrate DOWSIL™ technologies into your specific design while meeting all stringent technical requirements, Dow provides a comprehensive service through

our Façade Engineering and Architectural Design Team (FEAT) around the globe. Our team of engineers stay at your disposal to help match design and technology.



Future-proof your buildings

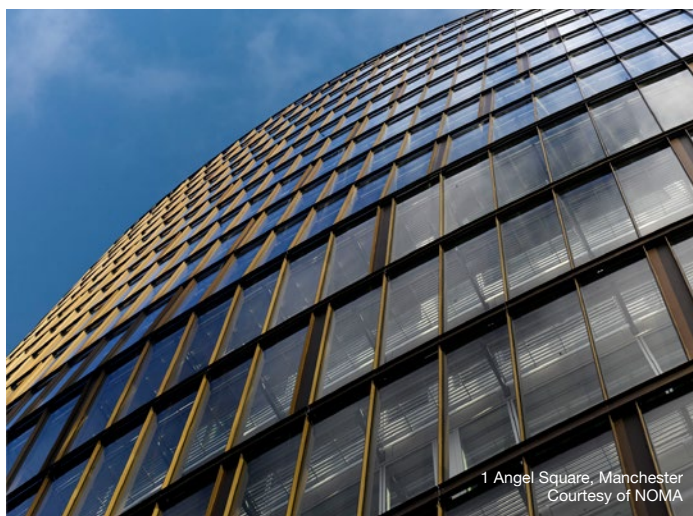
When compared to other technologies, the inherent properties of silicones minimize nature's toll on the building envelope to prolong service life, appearance and reduce cost of maintenance throughout the life cycle of a building.

In combination with our weather seals, which help to maintain the aesthetic appearance of a building, the use of silicones can enable carefully designed modern architecture to resist aging and weathering and considerably reduce the frequency of maintenance.

With an anticipated service life exceeding 25 years, buildings constructed with DOWSIL™ silicones are sustainable investments with enormous value retention, providing a strong case for differentiation in what is a very competitive market.



Silicone solves high altitude technical challenges at the world's tallest tower
Photo courtesy of Emaar Properties - Burj Khalifa, Dubai



Only the best – superior quality and service

from Dow

Your customers entrust you with a lot – their passion for modern architecture, large investments and, last but not least, ideas which can change the lives and daily work routine of many people. Day after day, it's up to you to strengthen this trust.

With over 70 years of expertise in developing and using silicone adhesives and sealants, we are the ideal partner for projects of any complexity. Dow provides the products of choice on many of the tallest buildings around the world, which is a real testament to their reliability and security in use.

Use our reliable and proven products in your building projects with confidence and for peace of mind, for you and your customers.

The measure of quality

Our products have proven their reliability in use around the world in a wide variety of conditions, from functional office buildings requiring optimum energy values to architecturally unique structures boasting peak performance and outstanding aesthetics.

Comprehensive tests carried out in our own laboratories ensure that our reliable and proven product range and our more recent innovation consistently correspond to our high standards of performance. This means you can always be sure you are working with optimum and consistent quality and reliability when you use silicones from Dow.

The partner at your side

Dow has joined forces with fabricators, installers and applicators to offer specifiers Quality Bond™, a set of services and commitments which lift sealing and bonding to the highest level allowing DOWSIL™ brand silicone materials to be specified with certainty.



Quality Bond™ members focus on best-in-class quality control and quality assurance. Excellence in product application enables the construction of safe, beautiful structures featuring longevity and outstanding durability. Quality Bond members work in close co-operation with Dow and their technical distributors with access to expertise and priority technical service for full project reviews.

Top performance, around the globe

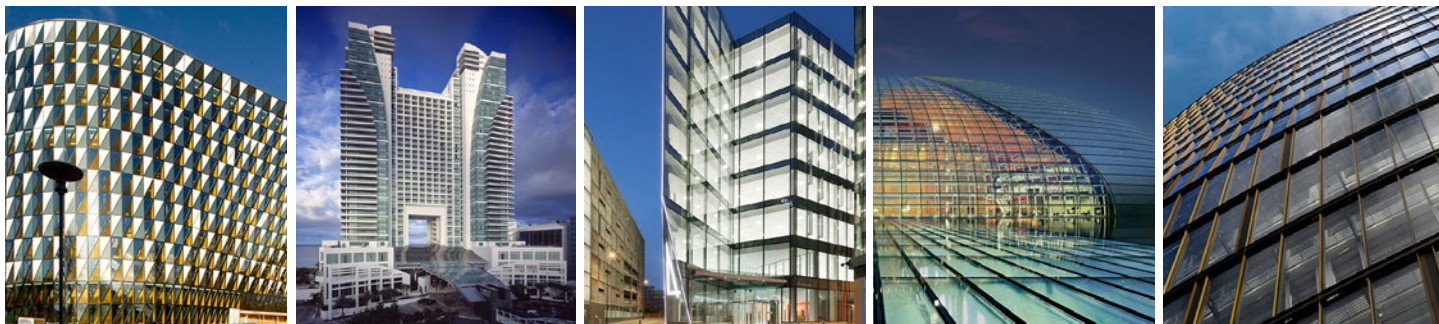
Only a partner who is at home in your world can offer you products and solutions which achieve optimum results in compliance with standards and regulations. Thanks to a global presence and an international team, we have a comprehensive view of the legal framework conditions in nearly every region of the world and are able to independently respond to new national and international regulations.

We actively support you in the certification process for your building through organizations such as the U.S. Green Buildings Council (LEED), the German Sustainable Building Council (DGNB e.V.) and BRE Environmental Assessment Method (BREEAM). Using DOWSIL™ silicones allows you to compete with confidence with the added assurance of a global support network.

"In a world of ever increasing technical complexity of façades, our specialists provide support with appropriate technologies combining design and performance and offer the necessary confidence in the feasibility of proposed solutions."



Markus Pletttau, Marketing Manager - EMEA



Dow High Performance Building Solutions

For more information

Learn more about Dow's full range of High Performance Building solutions, including service and support at dow.com/construction.

Dow has offices, manufacturing sites, and science and technology laboratories around the globe. Find local contact information at dow.com/contactus.

DOWSIL™

silicones by 



dow.com/construction

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The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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