

THE NEXT GENERATION OF COMMERCIAL ARCHITECTURE: SILICONE SOLUTIONS

DESIGN FREEDOM THROUGH HIGH-PERFORMANCE FACADES

THE RISE OF COMMERCIAL INFRASTRUCTURE

THE GLOBAL CONSTRUCTION INDUSTRY IS EXPECTED TO GROW AT A 5.5% RATE THROUGH 2021.¹

THE DEMAND FOR SILICONE IN NORTH AMERICA IS PROJECTED TO GROW 6.8% BY VOLUME BETWEEN 2015 AND 2020.²

5.5%
GROWTH RATE

6.8%
INCREASE IN
SILICONE DEMAND

BUILDING FROM THE OUTSIDE, IN

Typical cost of the commercial building envelope is up to **35% of total building cost**.³

Proper facade design is one of the most important architectural elements for:

OPTIMAL ENERGY EFFICIENCY | AIRFLOW
NATURAL LIGHTING | LIFECYCLE COST SAVINGS

35%
OF TOTAL
BUILDING
COST



WORK-LIFE BALANCE

Designed for highly-transparent, modern glass facades, DOWSIL™ Silicone Structural Glazing (SSG) and Weatherproofing Systems help create long-lasting building envelopes that address top trends for happy, healthy and secure living and work spaces

100 MILLION+ TONS OF CO₂ COULD BE SAVED ANNUALLY

if all the buildings in Europe were fitted with advanced energy saving glass.⁴

Imagine the possibilities if buildings worldwide were outfitted with energy saving glass.

**SAVE
100 M+
TONS
CO₂**

WEATHER AND NATURAL DISASTER PROTECTION

High-performance silicones maximize facade structure stability to protect against:

HURRICANE AND TORNADO FORCE WINDS
SEISMIC ACTIVITY | SUNLIGHT | OZONE
RAIN | SNOW | EXTREME TEMPERATURE

MORE THAN **50%**

of Dow projects are tied to sustainability to address issues like energy production and urbanization.⁵

Silicone technologies go hand-in-hand with smart engineering for efficient structural glazing and help **reduce a building's heating and cooling needs**.

ENERGY EFFICIENCY

Silicones are in nearly every facet of an **energy efficient building** including:

INSULATION | FACADES
LOW-VOC PROTECTIVE COATINGS
SMART WINDOWS | LIGHTING

SOUND PROTECTION

Reliable and proven silicones help to effectively insulate against noise and actively **control sound loads** through specialty glass.

FIRE PROTECTION

Specialty silicones meet stringent European standards to protect occupants and building fabric from fire.

**3X
LONGER**

LIFE-CYCLE COST SAVINGS

DOWSIL™ silicone sealants outlast organic sealants **by three times** in the same application.

LOWER MAINTENANCE COSTS | LOWER LIFETIME OWNERSHIP COSTS | HELP KEEP ROI ON TRACK

50+ YEARS OF PROVEN PERFORMANCE

DID YOU KNOW?

Dow pioneered DOWSIL™ SG as a revolutionary technology in the 1960s. Buildings constructed with DOWSIL™ silicones have an anticipated service life exceeding 50 years, as tested by:

The European Technical Approval Guideline (ETAG) 002
Federal Institute for Materials Research and Testing (BAM) in Germany

consumer.dow.com/50Plus

@DowBuilding #50YearsFacades

Dow Building & Construction



SOURCES:

¹ <http://www.businesswire.com/news/home/20160919005979/en/Global-Construction-Industry-Growth-5.5-Trends-Forecast>

² <http://www.marketsandmarkets.com/PressReleases/silicone.asp>

³ <http://greenbuildingelements.com/2014/03/25/guest-post-importance-facade-engineering/>

⁴ <http://www.glassforeurope.com/en/issues/faq.php>

⁵ <http://www.building.com.hk/forum/20161114bj10.pdf>