

Powerflex Technology



STRUCTURAL ELASTIC
BONDING TECHNOLOGY
FOR SikaForce[®] PUR ADHESIVES

BUILDING TRUST



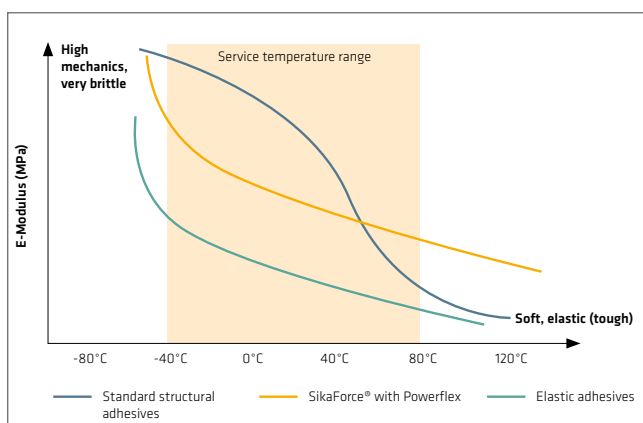


Powerflex - STRUCTURAL ELASTIC ADHESIVE TECHNOLOGY

Powerflex IS A UNIQUE ADHESIVE TECHNOLOGY combining advantages of both structural- and elastic adhesives. Powerflex makes the new generation SikaForce® adhesives an effective solution for bonding and assembly of lightweight vehicles, fiberglass boats, metal fabrications and virtually any application that requires a strong, reliable bond.

The Powerflex technology provides the highest levels of strength combined with lasting elasticity even at low temperatures. With the unique performance characteristics SikaForce® polyurethane adhesives with Powerflex inside outperform the state-of-the-art 2C structural adhesives designed to bond lightweight mate-

rials. They are designed to create long lasting bonds throughout the service life of bonded components no matter what climate conditions they face. Powerflex represents a new generation of SikaForce® structural adhesives making them the ideal solution with unmatched product features.

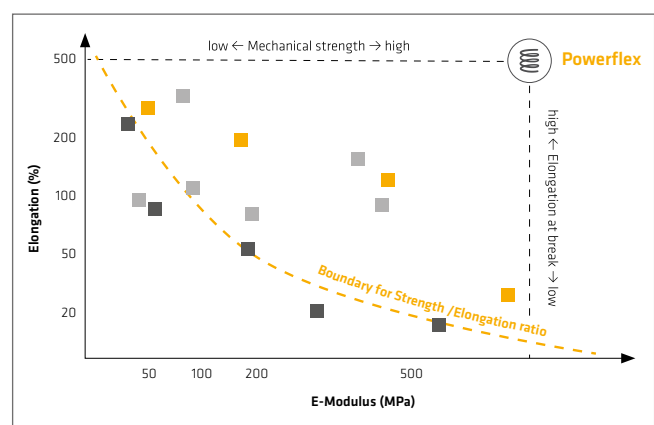


Constant performance over service temperature

While 1-component polyurethane adhesives provide excellent cold temperature performance regarding elongation, their potential in strength (E-Modulus) is insufficient for high strength bonds. In contrary to this, 2-component structural adhesives offer enormous potential for mechanical strength but are lacking the necessary flexibility at low temperatures needed for bonding mixed materials. Standard 2-component adhesives also show a significant loss of mechanical strength at elevated temperatures (e.g., 80°C). The new generation of SikaForce® 2C polyurethane adhesives with Powerflex inside shows a substantially higher strength retention rate in the heat while keeping its elasticity over the entire service temperature.

Powerflex stands for a paradigm shift

The new SikaForce® structural adhesives feature a unique combination of structural strength and permanent elasticity. This key performance feature is a potential game changer in the composite industry as it allows to formulate SikaForce® structural adhesives with exceptional mechanical strength without compromising the elongation. Powerflex breaks the boundary of strength- and elongation ratio and is therefore becoming the preferred solution when bonding materials with different thermal expansion coefficients (e.g. CFRP and aluminum). The Powerflex technology therefore provides the end user with unimagined design possibilities involving composite materials.



- Possibilities of SikaForce® with Powerflex
- New customer requirements
- Standard structural adhesives

SikaForce[®]-800 SERIES WITH Powerflex INSIDE

SikaForce[®]-800 SERIES provides unique mechanical characteristics making it an ideal solution for mixed material- and composite bonding. This new generation of structural adhesives brings innovations to market trends and is becoming an integral part when bonding modern lightweight materials.

Key features of SikaForce[®] adhesives with Powerflex inside

- Combines the high strength of structural- with the flexibility of elastic adhesives
- Keeps flexibility even at low temperatures
- Provides stable mechanical strength over service temperature
- High energy absorption capacity
- No smell compared to other technologies

Bringing innovation to market trends



LIGHTWEIGHT

Allowing multimaterial mix for mass and weight reduction



PROCESS EFFICIENCY

Providing solutions for ultimate process efficiency



DESIGN

Enabling modern design with new materials

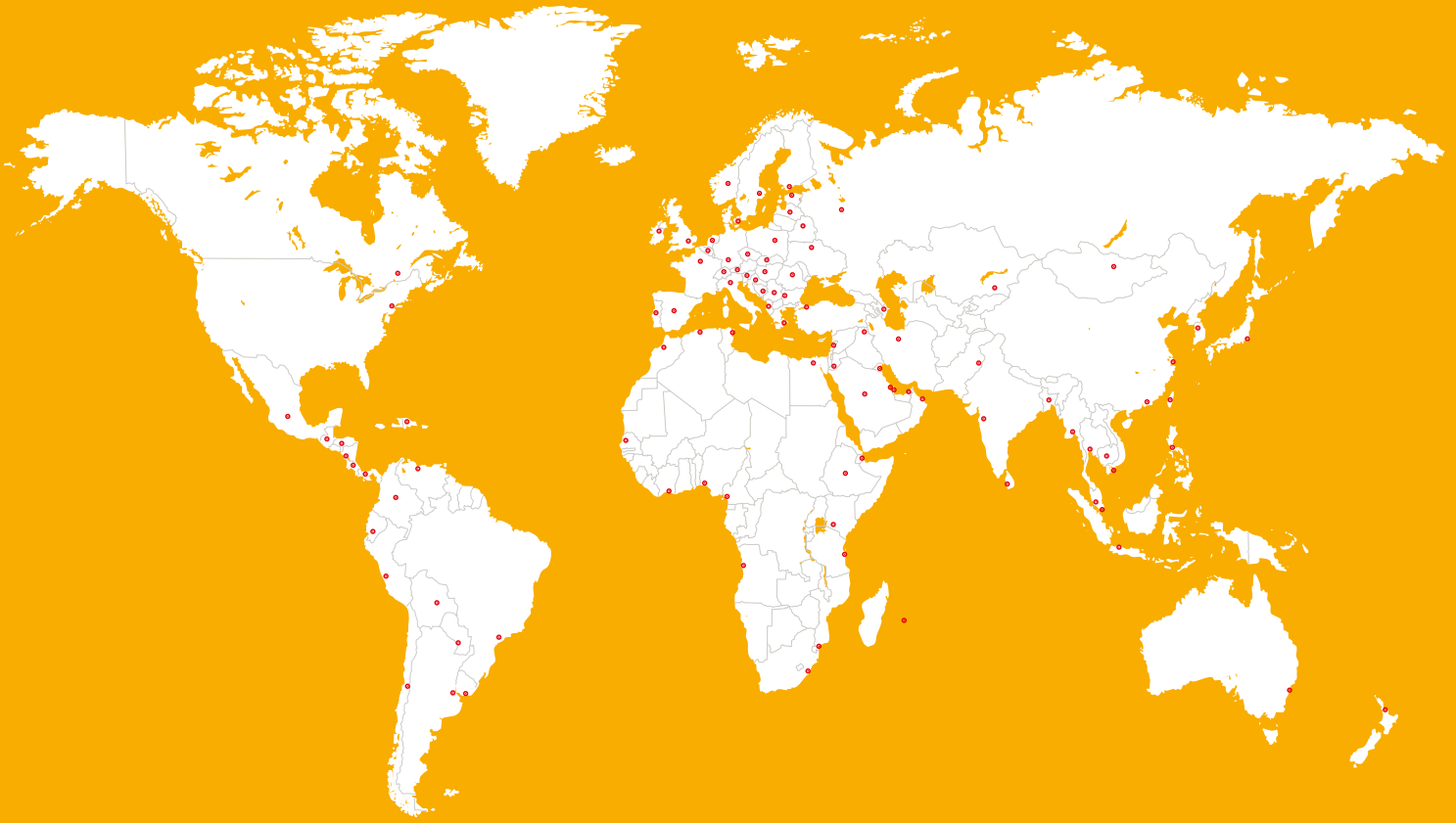


DURABILITY

Creating long lasting bonds

	SikaForce [®] -803	SikaForce [®] -840
Technology	2C Polyurethane	2C Polyurethane
Mixing ratio	1:1	1:1
Color (mixed)	Black	Black
Viscosity	Thixotropic paste	Thixotropic paste
Pot life	45 minutes	7 minutes
Handling time	120 minutes	15 minutes
Lapshear strength	10.0 N/mm ²	15.0 N/mm ²
Tensile strength	10.0 N/mm ²	15.0 N/mm ²
Elongation	250%	100%
E-Modulus	30 N/mm ²	400 N/mm ²
Glass transition temp.	-50°C	-45°C

GLOBAL BUT LOCAL PARTNERSHIP



WHO WE ARE

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply.
Please consult the Data Sheet prior to any use and processing.



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