



# Powerflex Technology

STRUCTURAL ELASTIC  
BONDING TECHNOLOGY  
FOR SikaForce<sup>®</sup> PUR ADHESIVES

BUILDING TRUST



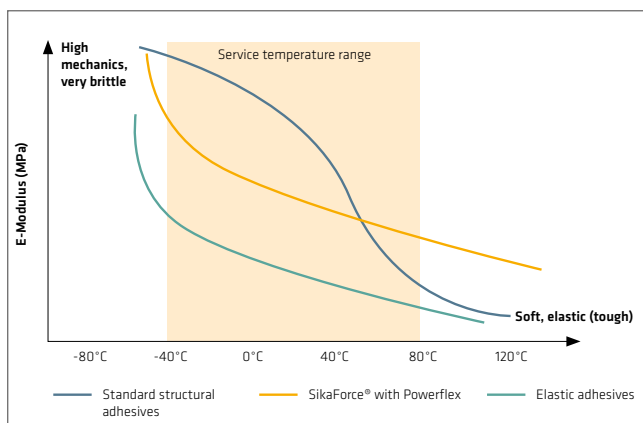


# Powerflex - STRUCTURAL ELASTIC ADHESIVE TECHNOLOGY

**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.

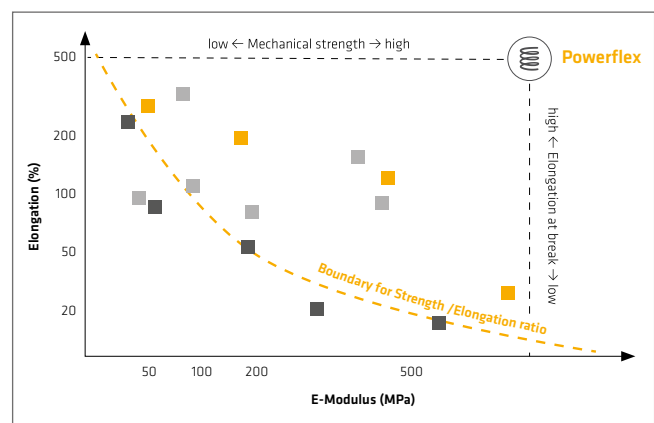


## Constant performance over service temperature

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



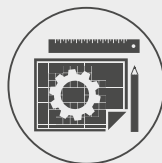
#### LIGHTWEIGHT

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 <sup>2</sup>	15.0 N/mm <sup>2</sup>
Tensile strength	10.0 N/mm <sup>2</sup>	15.0 N/mm <sup>2</sup>
Elongation	250%	100%
E-Modulus	30 N/mm <sup>2</sup>	400 N/mm <sup>2</sup>
Glass transition temp.	-50°C	-45°C

# SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:



**LIQUID APPLIED ROOFING**



**SINGLE PLY ROOFING**



**CONCRETE**



**CONCRETE REPAIR**



**STRUCTURAL STRENGTHENING**



**WATERPROOFING**



**JOINT SEALING**



**FAÇADE STRUCTURAL ADHESIVES**



**FLOORING**



**INDUSTRY**



**DISTRIBUTION**



**BUILDING TRUST**

## WHO WE ARE

Sika Limited and Sika Ireland Limited are part of the global Sika Group, specialising in the manufacture and supply of chemical based products. Sika have 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 has subsidiaries in 101 countries around the world and manufactures in over 200 factories. With more than 20,000 employees Sika generates annual sales of CHF 7.09 billion (£5.45bn). We are also committed to providing quality, service, safety and environmental care.

In the UK and Ireland, we provide market-leading solutions for concrete, waterproofing, roofing, flooring, refurbishment, sealing & bonding, and industry, and have manufacturing sites in Welwyn Garden City, Preston, Leeds and Dublin with more than 870 employees and a turnover of more than £260 million.

The information, and, in particular, the recommendations relating to the application and end use of Sika® products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. Please refer to our homepage [www.sika.co.uk](http://www.sika.co.uk) for our current standard terms & conditions applicable to all orders. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request.



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