



Profile  
Composites for  
Pipeline Rehabilitation



2018



## Welcome To Bodotex

Right from the heart of Denmark.

Bodotex is a Trade and Production company with origins in the beautiful Vejle River valley in Denmark.

Established in 1953, with roots in the textile industry, Bodotex has developed into a cluster of specialist business units that focus on chemicals and composites through its companies in Denmark and South Africa

Bodotex South Africa was established in 2014 for the purposes of fulfilling our mission of transferring our world class technology and skills to the fast developing composite industry in Southern Africa.

Our Parent company in Denmark, with its deep experience in global composite know how, lends a powerful extension into the Southern hemisphere with primary know how feeding directly from one of Europe's leading composite manufacturers.

Bodotex Composites PTY (Ltd) is an innovative and service minded player in the South African market.

Our mission and Purpose: To transfer our industry leading technology and world class skill to the South African market.

Our Vision: To lead the African market in composite and pipe rehabilitation technology and material supply chain.

Based in St. Francis bay, and positioned close to a cluster of composite manufacturing businesses, Bodotex SA is strategically placed with close proximity to Port Elizabeth and Cape Town.

Bodotex offers an exciting pallet of products and solutions ranging from Epoxy Resin , Pipeline Rehabilitation and vacuum infusion consumables covering a large composite footprint.

## Company Contacts

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Ewen Niske  
Ryan Osborne

[www.bodotex.co.za](http://www.bodotex.co.za)



## World Class Danish Composite Materials in South Africa ..... by Bodotex!

**Bodotex Composites** is a substantial manufacturing supplier to the global composite industry. **Bodotex Composites** is active daily as a technology support partner in composite processes. **Bodotex Composites** services the Southern African Market from its base in the Eastern Cape, South Africa and Denmark ,Scandinavia

✓ **BODOPOX** -Epoxy Based Resin Technology - All sectors

✓ **Pipeline Rehabilitation**

- Seartex - GRP liners for Sewer and H2O -Ø400+
- IST - UV and Robot technology
- Reline group - Spray Relining Ø50-200
- Amex Sanivar -
  - SANITUBE & SANIPIPE DN 80-400
  - AMEX Pipe Seals, Ends ,Angles & HOSE
- Pipe Plugs and Packers

✓ **Vacuum Infusion Technology**

✓ **Pump Technology | Service**

✓ **Composite Structural & Process Materials**

✓ **PVC & Balsa Core**

✓ **CCS – Composite Consulting Services**



MEMBER OF



## PIPELINE REHABILITATION TECHNOLOGY Sewer and Potable Water Pipeline Rehabilitation

**Bodotex** is a supplier of Epoxy Resin systems, Liner materials and CIPP solutions together with our partners from Europe.

In association with **Saertex Multicom** Germany and **IST** Scandinavia, **Reline Group** Finland and **Amex SANIVAR**, Bodotex offers the African Market access through partnership to the latest, Most durable solutions for Pipeline Rehabilitation.

**Bodotex** is a member of the South African Society for Trenchless Technology / SASTT

**Bodotex** is the Southern African Agent for some of the worlds leading Solutions where composites are applied. Allowing us to provide leading edge solutions and advice in rehabilitation cases.



## LINING SOLUTIONS FOR THE 21ST CENTURY

As one of the leading manufacturers in the field of trench less rehabilitation of pipelines, you can expect personalised solution from Saertex with world class experts leading you through the process.

Our product range can provide solutions from house connections to large diameter sewer, pressurised and potable water pipelines.

Saertex Multicom has production facilities in Saerbeck, Germany and in Huntersville USA, allowing us the advantage of offering unique flexibility, high quality, short delivery times and customised solutions.



## ECONOMICAL INNOVATIVE FLEXIBLE QUICK



Our trenchless rehabilitation procedures, which usually last no longer than one day, provide invaluable benefits.

- Low noise, dust and exhaust pollution for residents
- Minimal road and traffic disruptions
- No week-long closures of streets and sidewalks
- Successful installations can be performed in confined spaces
- No excavation of soil - thus conserving tree roots etc.
- Immediate pipeline recommissioning



## SAERTEX-LINER®: Characteristics

- Unique stitch-bonded fabric
- CIPP- Cured in Place Pipe-Technology
- Fast performance - fast installation (50 – 210 cm/min)
- Glass fiber reinforced fabrics (GRP)
- High material parameters: E-Modules and flexural strength
- Environmentally friendly
- No process water during the curing unlike other CIPP solutions
- Over pumping of wastewater can be avoided in most cases

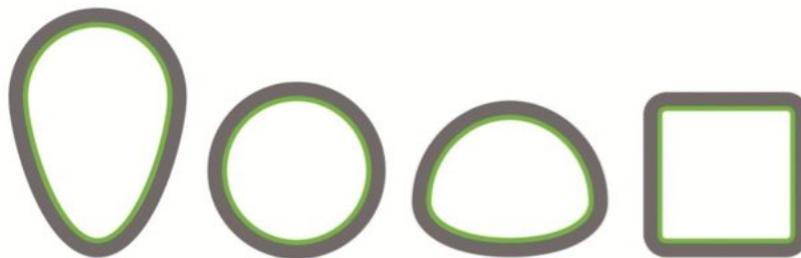




## SAERTEX-LINER®: Characteristics



SAERTEX-LINER®	Type S+	Type M
Construction	2-layer construction	
E-module long term	20 500 N/mm <sup>2</sup>	> 7 500 N/mm <sup>2</sup>
Dimensions	DN 150 – DN 1600	DN 150-DN 400
Change of dimension within a given sewer	Possible	
Wall thickness	3 mm – 15 mm	3 mm-4 mm
Curing	Under UV light or Steam	





## SAERTEX-LINER®: Installation Characteristics

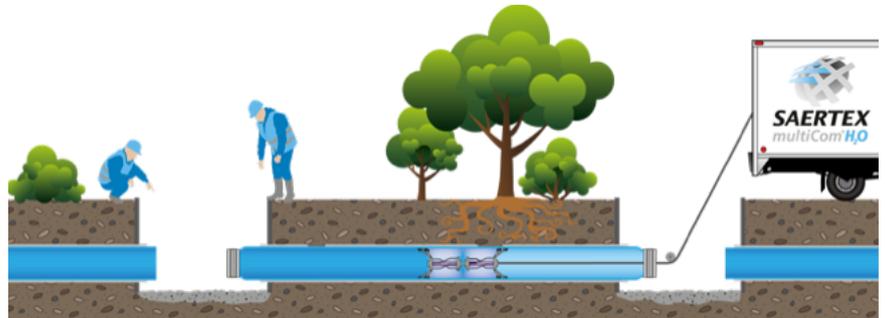


1. Access to the leaking pipe is created.

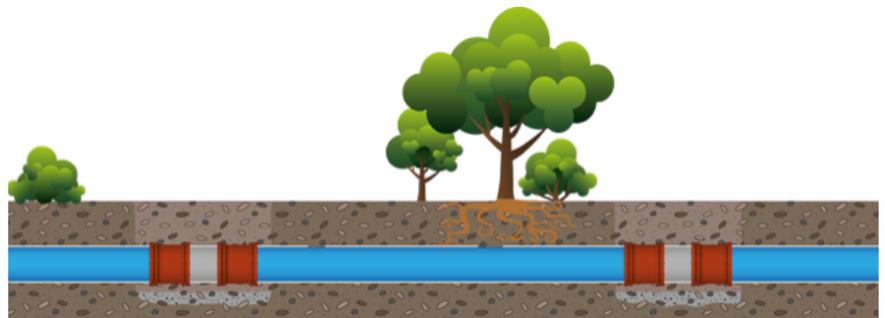
2. SAERTEX-LINER is pulled in.



3. Pressurisation and curing with UV light.



4. The rehabilitated pipe is reconnected and service is restored





**I.S.T. GmbH**, based at the heart of the Ruhr River Valley in Bochum, Germany is one of the most successful and innovative comprehensive suppliers for pipe and sewer rehabilitation in the world.

In collaboration with its Scandinavian Division Bodotex has partnered up with IST to provide high tech UV curing Technology, Milling Robots, Felt Liners, and consumer products for CIPP.

## UV Curing Systems

Power LIGHT UV systems are based on the latest UV Curing technology.

- The recording of all relevant curing data is just as important as the use of high quality components from leading manufacturers.
- Various control concepts (mobile or fixed)
- cable lengths (up to 1000 m)
- UV light sources in various sizes (DN 80 to DN 1600)
- Power levels (400 to 2000 watts)
- UV curing cameras can be individually adapted to the respective requirements.

## Milling Robots

Power Cutter : milling robot models, for pipes ranging in diameter from Ø 100 to Ø 700 mm

- Power Cutter Micro
- Power Cutter 100
- Power Cutter 150
- Power Cutter 200
- Vehicle and Trailer Optimisation



## ElastoTec M

### Injection Sprayed polymer plastic mass

New applications Sewer and Drain pipe rehabilitation, using Rotary spray application of Polymer Plastic mass to series inject relining material.

Elastotec M is developed for Spray injection casting of all pipes **Ø50- Ø200**

- Plastic
- Cast Iron
- Stainless Steel
- Concrete
- Copper

### Key Benefits

- Simple
- Compact
- Easy to Move
- Lightweight at 38 kg
- Intuitive Software
- Material Calculator
- Reporting Tool



### Key Application Markets :

High Rise Buildings -Hotels -Hospitals -Industrial Piping - Sewer and Drain  
SPOT Repair



## ElastoFlake

### Durable relining material for plastic pipes

**ElastoFlake** is a polymer plastic material that creates a seamless and durable new surface inside most pipe materials. What's more, there's no risk of damage to any existing building structures when you it.



**ElastoFlake** relining material is especially developed for plastic, but is also suitable for other pipe materials such as stainless steel, concrete, copper, and cast iron.

This versatility makes it the perfect choice for most sewage and drain environments. ElastoFlake can also be used alongside other sewer renovation solutions for a variety of applications, such as spot repairs, relining connector lines and more.

#### **ElastoFlake**

- Anti Bacterial
- Fast Hardening
- Solvent Free
- Styrene Free
- Smooth and slick surface
- Highly resistant to temperature changes
- Good Low Temperature Impact tolerance
- Good Elasticity

## SaniTube / SaniLine

**SaniTube** circular-woven, seamless polyester fibres hose and thermoplastic polyurethane coating.

**SaniLine** circular-woven, seamless polyester fibres hose, thermoplastic polyurethane coating and two-component polyurethane adhesive.

Amex Sanivar's high performance stand-alone "pull in" liner for trenchless rehabilitation of pipelines of all common types of pipes (including cast-iron, ductile iron, steel, PVC and asbestos-cement pipes) from **DN 80 to DN 400**

- OIL
- GAS
- PETROLIUM
- FIRE EXTINGUISHING
- INDUSTRIAL WATER
- SEWER
- POTABLE WATER
- SEAWATER

**Production length: 1000 m**

### **Polyester fibers hose**

- Material: Circular-woven seamless polyester fiber hose
- Melting point: 250 - 260°C
- Density (DIN 53479): 1,38 g/cm<sup>3</sup>
- Outside ignition temperature: > 400°C
- Self ignition temperature: > 500°C
- Decomposition temperature: > 280°C
- Tensile strength, longitudinal (DIN 53504): 1000 - 2000 N/cm
- Tensile strength, radial (DIN 53504): 800 - 2000 N/cm
- Elongation at break, longitudinal (DIN ISO 815 ): 20 - 30 %
- Elongation at break, radial (DIN ISO 815 ): 40 - 60 %

## SaniTube / SaniLine

### Polyethylene coating

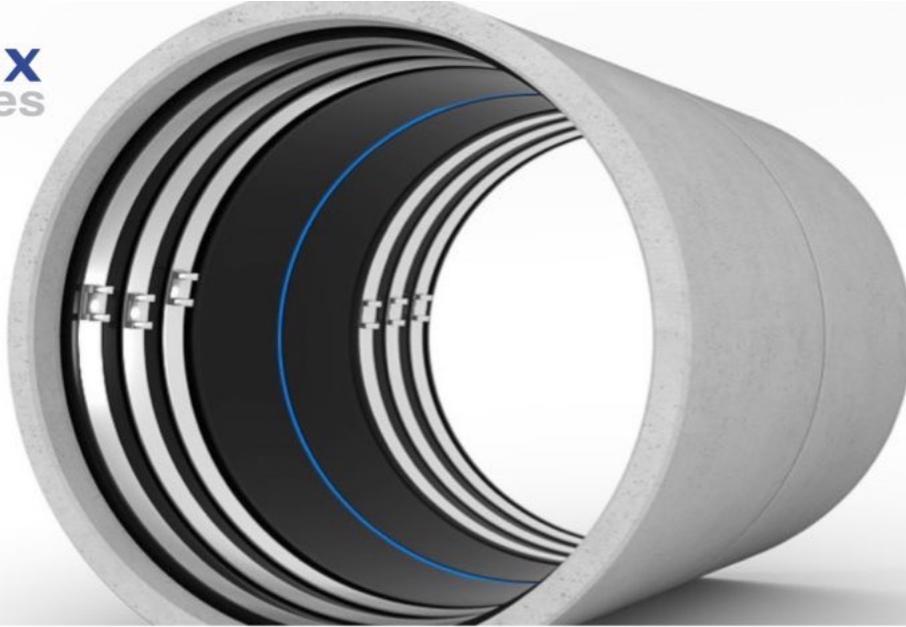
- Material: Thermoplastic polyethylene
- Melting point: 96°C
- Vicat Softening Temperature (DSC Peak): 80°C
- Shore Hardness D: 31
- Density: 0,902 g/cm<sup>3</sup>
- Water solubility (g/l): insoluble
- Flash point: n. a.
- Outside ignition temperature: n. a.
- Decomposition temperature: n. a.

### Polyurethane coating

- Material: Thermoplastic polyurethane
- Melting point: 163°C
- Vicat Softening Temperature (DSC Peak): 115°C
- Shore Hardness D: 87
- Density: 1,12 g/cm<sup>3</sup>
- Water solubility (g/l): insoluble
- Flash point: n. a.
- Outside ignition temperature: > 400°C
- Decomposition temperature: > 230°C

### Application range

- Problem type: rehabilitation of cracks, leaks, corrosion, protection of the pipe wall against ageing, chemicals, heat etc
- Diameter: DN 80 - DN 400
- Applicable to gravity pipes: yes
- Applicable to pressurised pipes: yes
- Operating pressure: 16 bar
- Pipe profiles: circular-, elliptical-, angular- and mouth-shaped
- Pipe materials: all



## AMEX



**AMEX ANGLE HOSE :** Endless long sections of damaged pipe bends, as prevention of pipe corrosion.

Amex Angle Hose consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands.

**DIN 600-2000**

- SEWER
- Potable water
- Industrial Water

**AMEX Flange :** Sealing of liner end including rubber gasket for flange coupling/connection

Amex Flange consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands.

**DN 150 - 1000**

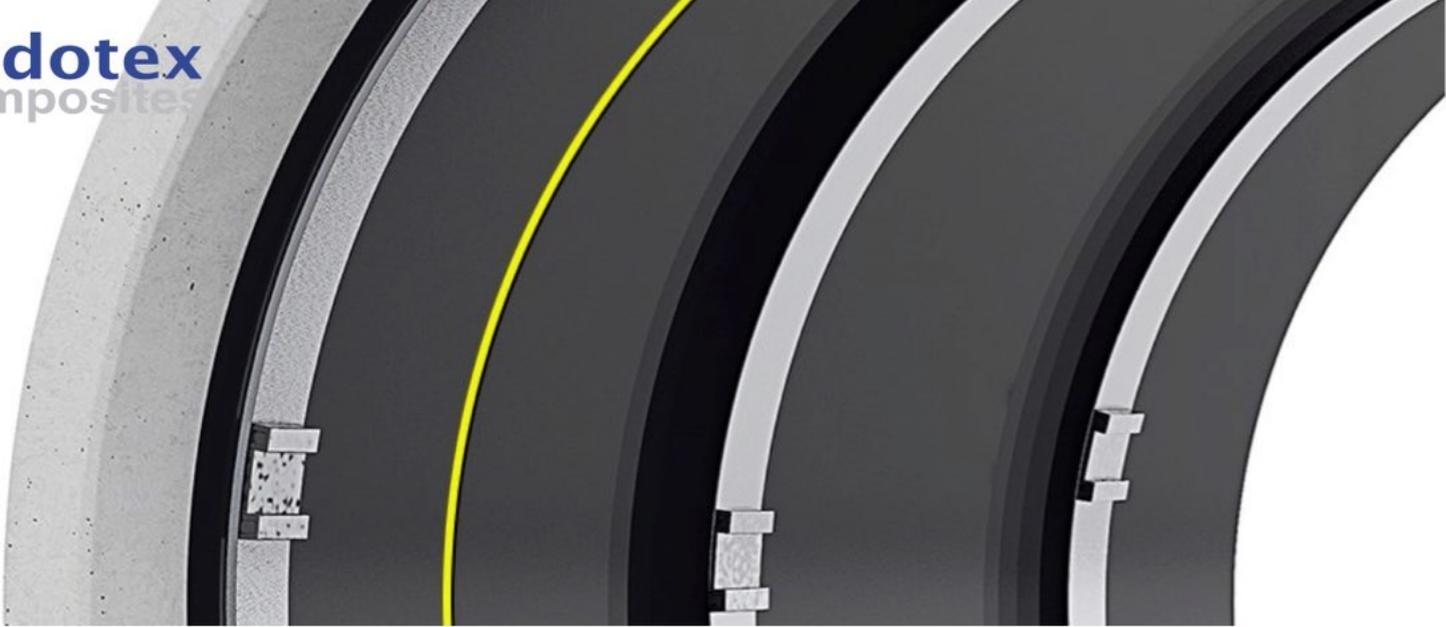
- SEWER
- Potable water
- Industrial Water

**AMEX Hose :**

Amex Hose consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands.

**DIN 800-2200**

- SEWER
- Potable water
- Industrial Water



## AMEX..



**AMEX Liner Ends** : Sealing of liner ends, compensates differences between liner and host pipe or two different pipe diameters e. g. after pipe jacking  
Amex Liner End consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands.

### **DIN 150-4000**

- GAS
- Oil and Petroleum
- Industrial Water
- Potable Water
- Sewage
- Seawater

**AMEX MONO** : Problem type: joints, local damages

Amex Mono of elastic NBR rubber and high-strength noncorrosive stainless steel bands.

### **DIN 600-6000**

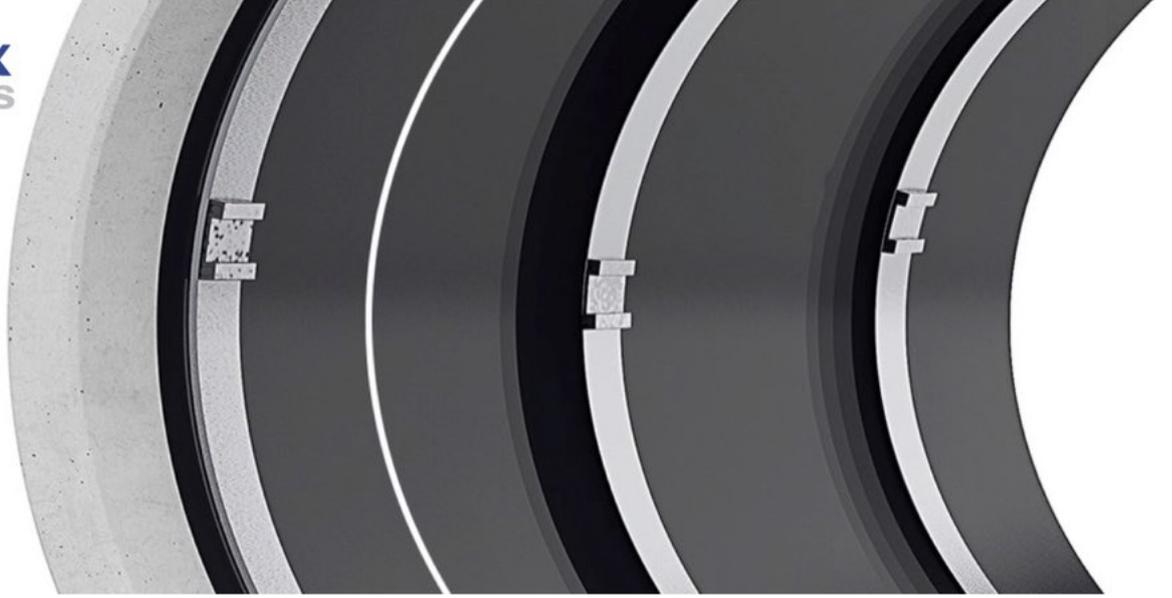
- GAS
- Oil and Petroleum
- Industrial Water
- Potable Water
- Sewage
- Seawater

**AMEX Omega** : pipe bending, movement with external hydrostatic pressure, longitudinal displacements e. g. compensator, movable joints

Amex Omega consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands

### **DIN 600-6000**

- Industrial Water
- Potable Water
- Sewage



## AMEX...



**AMEX Reduction** : Sealing of liner ends from 20 mm to 50 mm, compensates differences between liner and host pipe or two different pipe diameters e. g. after pipe jacking

Amex Reduction for Sewage consists of elastic EPDM rubber and high-strength noncorrosive stainless steel bands.

**DIN 500-4000**

- Industrial Water
- Potable Water
- Sewage

**AMEX Vario** : Endless long sections of damaged pipes, as prevention of pipe corrosion

Depending on application EPDM or NBR rubber and high-strength noncorrosive stainless steel bands

**DIN 600-4000**

- GAS - NBR
- Oil and Petroleum - NBR
- Industrial Water - EPDM
- Potable Water - EPDM
- Sewage -EPDM
- Seawater -EPDM



## Pipe Plugs

Bodotex can offer a wide range NBR,CR or EPDM rubber packers and Plugs

**Pipe Plugs** : 1,5 bar NBR,CR or EPDM

Size variant combination : DIN 50 - 2200MM

**Pipe Plugs** : 2,5 bar NBR,CR or EPDM

Size variant combination : DIN 35 -1600MM

**Short Pipe Plugs** : 2,5bar

Size variant combination : DIN 50 - 400mm

**Conical Shrinking Pipe Plug** : 1 Bar

Size variant combination : DIN 70 - 2200 mm

Size variant combination : DIN 100 - 2200mm with Bypass

**EGG Shape Pipe Plug** : 1,5 Bar

Size variant combination : DIN 200 - 400 mm

**SMALL Pipe Plug** : 2,5 Bar

Size variant combination : DIN 24 - 800 mm

**TEST PLUGS** : We offer a wide variety of sizes.



## PACKERS

**Lateral Packer** : 1-3 Bar depending on size variant

Size variant range in combination : DIN 25-600mm

Nominal Length Variants : 600mm to 5 meter

**Short Packer with metal core chassis** : 1,5-2 Bar

Size variant range in combination : DIN 150 - 600 mm

Nominal Length Variants : 780 - 900 mm

**Flex Packer with Bypass and wheels** : 1-2,5 Bar depending on size variant

Size variant range in combination : DIN 100 - 800 mm

Nominal Length Variants : 1 m to 5 meter

**Bendy Packer** : 1-3 Bar depending on size variant , 2 variants

Size variant range in combination : DIN 50 - 200 mm

Nominal Length Variants : 1250mm

## LIFTING BAGS

140 X 140 - 1000 X 1000 MM Lift Thrust from 1,5-76 tons depending on variant

## LEAK SEALING BAGS

300 x 600 mm x 20mm - 1,5 Bar

300 x 600 mm x 50mm - 6 bar

## VEHICLE LIFTING BAGS

0,5 bar: 1 ton lift : 550MM lifting height

2 Bar :4,4 Ton Lift : 550MM lifting height



## Bodopox - Epoxy Resin Systems Development and production

Bodotex has since 2004 developed its own original design epoxy resin systems for all types of industries.

From Basic Ambient curing Hand layup resins to High TG Mould Infusion Resins Bodotex offers a wide range of Original Content and designed Epoxy Resin systems under the Brands BODOPOX & BODOCURE

BODOPOX and BODOCURE designs are owned and developed in our labs and are is used in a wide variety of applications in the EMEA regions.

BODOPOX - Epoxy Resin Systems together with our extensive range of BODOCURE curing range are applicable typically into the following applications or configurations:

- ✓ Pipe Relining Epoxy Systems
- ✓ Vacuum Infusion Resin Systems
- ✓ Hand layup Resin Systems
- ✓ Tooling Resin Systems High TG
- ✓ Drinking water Epoxy Systems
- ✓ Extrusion Epoxies Systems
- ✓ Filament Winding Epoxies Systems
- ✓ UV Absorbing Epoxy Systems
- ✓ Bisphenol Free Epoxy Systems
- ✓ Stone Impregnation System
- ✓ Flooring Epoxies

Bodopox Resins and curing agents are used in Wind Turbine Blade Moulding, Marine applications for Tooling and Infusion, Defence applications and Pipe Repair technology as well as a wide industrial application of our Epoxy Products

Next to the standard systems, Bodotex Composites engineers customer specific systems so please ask, we can match a wide variety of applications.



## Vacuum Infusion Technology

### Development and Production

Bodotex has since 2004 developed and produced its own in house technology range for Vacuum infusion.

As a market leader in the global supply of consumables used in vacuum infusion, Bodotex offers a wide and complete solution to the South African Market Place

- ✓ Vacuum Bagging Films
- ✓ Sealant Tapes
- ✓ Spiral Flex
- ✓ Inlet and Vacuum Pipes
- ✓ Inlet Profiles and Blocks
- ✓ Flow Mesh
- ✓ Pipes
- ✓ Fittings
- ✓ Spray Adhesives
- ✓ Core Material
- ✓ Peel Ply
- ✓ Pumps - dosing and Mixing

Bodotex Vacuum Solutions are used globally and technically tested and proven in some of the largest wind energy producers on the planet.

