



STRATEGIC POLYMERS SOLUTIONS



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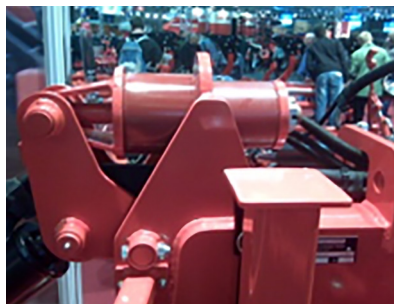
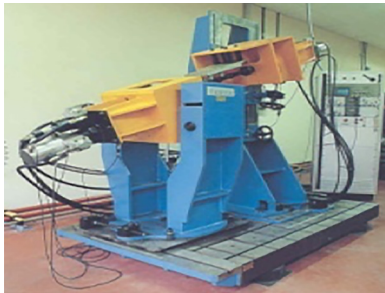
FOCUS

Since
1961

CEF develops, manufactures and sells polymeric technical parts and integrated systems made out of rubber and polyurethane.

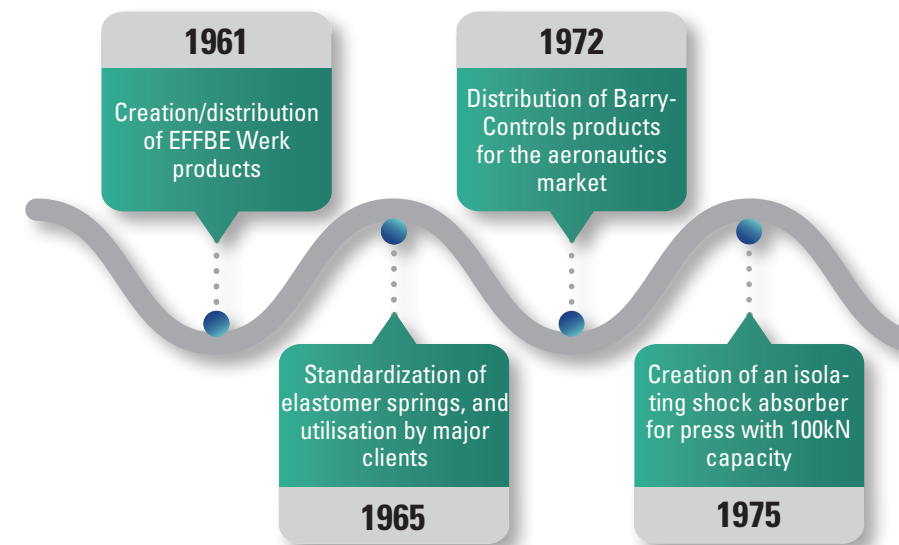
We offer a range of high added-value products designed to cope with dynamic stresses, enhance safety, cushion against shocks, insulate vibrations, reduce abrasive wear and noise.

Components for sealing, Attaching
Spring elements.
Levelling supports.



OUR COMMITMENTS

- To provide support to our customers throughout their project development
- To ensure optimal quality while meeting cost objectives
- To ensure the durability of the solutions we offer. To be capable of replacing products sold in the 1960s
- To help our workforce to develop and be creative
- To maintain a win-win partnership with subcontractors
- To maintain a reactive organization
- To use the safest and most environmentally-friendly chemicals





■ **POLYURETHANE SOLUTIONS**

■ **ANTI-VIBRATION SOLUTIONS**

■ **PNEUMATIC SOLUTIONS**
DIAPHRAGM CYLINDERS

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MEETS QUALITY STANDARD
ISO 9001:2000

➔ **PLANT IN VALENCE, FRANCE** Manufacturing of polyurethane / 20 employees

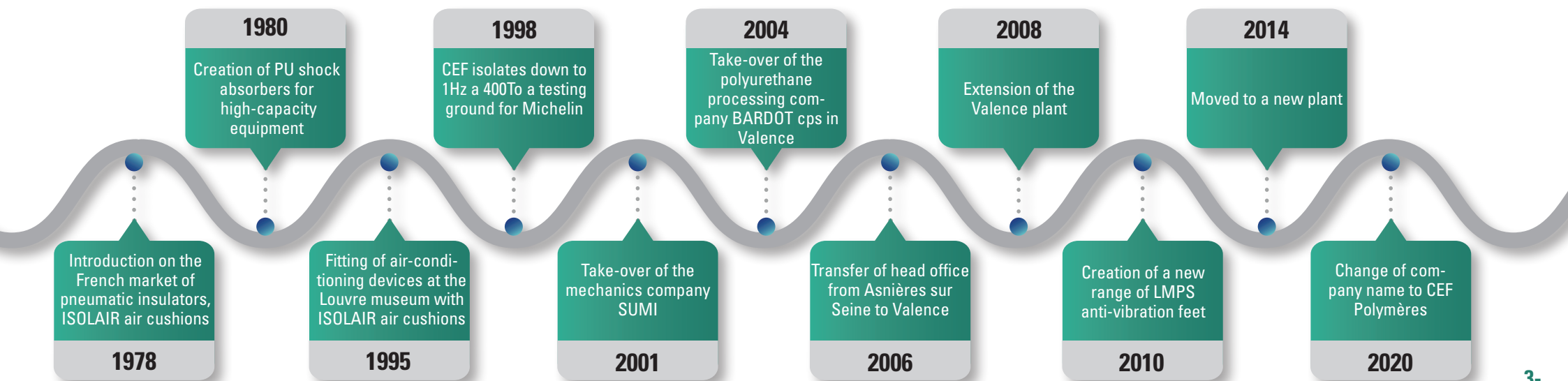
➔ **PLANT IN BURSA, TURKEY** Manufacturing of metal-rubber / 43 employees

➔ **SALES OFFICE** Paris

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COMPANY TYPE: Simplified Joint Stock company (S.A.S)

STOCK CAPITAL: 132.600

FAMILY COMPANY



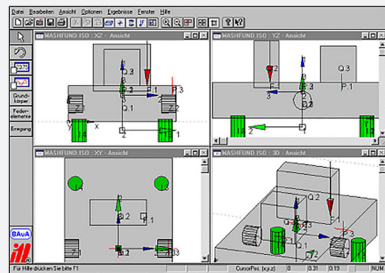
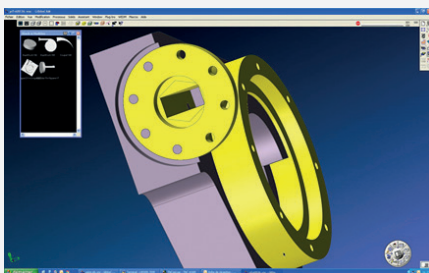
ENGINEERING

DEVELOPMENT

- Advice and technical support
- Materials selected according to customer specifications
- 2D/ 3D CAD design parts;
- Optimised product functions and lighter parts

FORCES

- To be expert
- Long experience
- Various applications
- 2 know Hour : Rubber + Polyurethane
- Testing facilities



PROCESS

POLYURETHANE MOULDING

- Machine gravity casting with electronic control of process parameters
- Low pressure casting 0.5 to 90 kg/mm
- Thermosetting RIM 2 Components
- Bonded coating using Insert moulding

RUBBER MOULDING

- Compression moulding press up to 250To
- Transfer Press 120To
- Bonded coating on automated machines

TREATMENTS APPLIED TO INSERTS

- Mechanical sandblasting of inserts
- Application of initial bonding layer



MACHINING

Production of moulds and equipment
Machining, turning, milling, drilling
Conventional and CNC machining
Roller correction



CUTTING

Hydraulic and mechanic cutting presses
Arm Press, die-cutting
Internal production of metal inserts



FINISH

Manuel or cryogenic deburring



PRODUCTS

POLYURETHAN SOLUTION

High quality Elastomer for dynamic stress

MARKET

- Harc
- Heavy duty machiner
- Testing a sensitive equipments
- Tooling
- Foundation building
- Electronic devices
- Construction machineris
- Agricultural machinery
- Offshore equipment
- Energy equipment



STRATHANE VS RUBBER

Abrasion resistance
Flaw tolerance
Load capacity
Possible to color
UV Ozone Resistance
Resistance to oils
Broad hardness range
Reduced tooling cost
Cost-effective production process

STRATHANE VS METAL

Weight gain
Noise reduction
Abrasion resistance
Corrosion protection
Resiliency
Resistance to shocks
Non-conducting
Easy to process

STRATHANE VS PLASTIC

Elastic memory
Break-proof
Resiliency
Low tooling cost
Resistance to low temperature tolerance
temperatures
Resistance to radiation
radiation
Noise reduction
Cost-effective production process
Shock absorption



PARTS ACCORDING TO DRAWINGS & SPECIFICATIONS

CHARACTERISTICS	
Pu formulations	MDI - TDI - NDI
Base	Polyéther Polyester
Hardness range	50 – 99 Sh A (72 Sh D)
Other	Pu Gel - RIM 2 components



PRODUCTS

POLYURETHANE SOLUTIONS

SEMI-FINISHED PARTS

- Suitable for machining, stamping, water cutting
- Resistance to tearing
- Extended hardness range: 40 – 99 Sh A.
- Abrasion resistance
- Hardness code / color
- Fast delivery time

CHARACTERISTICS

Toleranced plates	1000x1000 1000x500 250x250
Extra-large plates	3000x1000 2000x1000
Hollow round rods, diameter	16 to 250 mm
Solid round rods, diameter	6 to 250 mm
Hollow sections	5x5 à 150x150

LARGE / BULKY PARTS

- Possibility of Moulding large parts
- Reduced tooling cost
- Resistance to tearing
- Extended hardness range up to 73 Sh A.
- Abrasion resistance
- Suitable for machining

CHARACTERISTICS

Casting machine	90 Kg/mm
Weight of cast parts	Up to 450 kilos



Standard-sizes and customized production



Offshore manufacture of parts



Manufacture of parts in quarries



SPRINGS

- High strength yet compact
- Increased tool reliability
- Noise reduction
- Prevents breakage
- Corrosion protection
- Sizes according to DIN standards
- Shock absorption
- Customized sizes according to client specifications

WASHERS

- Resistance to tearing
- Extended hardness range: 40 – 99 Sh A.
- Tight dimensional tolerances
- Abrasion resistance
- Anti -corrosion
- Shock absorption
- Re-machining

CHARACTERISTICS

Standard strength range	50-14.000 daN
Non-standard strength	1-100.000 daN
Stroke	01 to 60 mm 01 to 100 mm
Diameter (DIN standards)	16 to 160 mm
Non-standard diameters	Up to 400 mm
Resistance to chemicals	Yes

Pre-tensioned springs



PRODUCTS

POLYURETHANE SOLUTIONS

WHEELS ROLLERS CYLINDERS

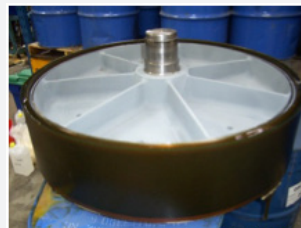
- Mechanical stripping
- Resistance to tearing, abrasion resistance
- Noise reduction
- Complete manufacture or coating only
- Correction of Ra, concentricity, tolerances
- Dynamic balancing service
- Repair, change of bearings
- FDA version
- Anti-static

COATED BEARINGS

- Overmolding onto sealed ball bearings
- Resistance to tearing, bearing noise reduction
- Standard range or according to client specifications
- Abrasion resistance

CHARACTERISTICS

Hardness range	40 to 99 Sh A
Obtainable diameters	Max. 650 mm
Obtainable length	2500 mm



STANDARDIZED TOOLING ELEMENTS

- Resistance to high levels of dynamic stress
- Resistance to tearing et abrasion
- Extended life span
- Reduced creep
- Meets RENAULT, OPEL, BMW, PSA, MERCEDES Etc.... standards

CHARACTERISTICS

Ejector Damper
Spindle damper
Punch stripper/Urethane Stripper
Flexible stripper
Guide bolts



PRODUCTS

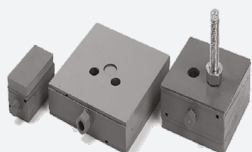
VIBRATION ISOLATOR FOR MACHINE SET-UP

ISOLATING - SHOCK ABSORBING SUPPORTS FOR MACHINERY

- Prevent ground-borne shocks and vibrations
- Increase reliability of tooling, reduce maintenance costs
- Noise reduction 2 to 8 dB
- Protect workers, ensure compliance with vibration standards
- Avoid costly investment in civil engineering works
- Quickly install and move machines
- Levelling, precision alignment
- Food-safe range
- Steel, stainless steel, and plastic range

CHARACTERISTICS

Load by support	50-25.000 kg
Natural frequency	08 – 25 hz
Diameter	80 à 315 mm
Floor anchoring	On BA version
Resistance to chemicals	Yes
Levelling	Accuracy 1/100 mm
Fixation	M8 to M30



AIR CUSHIONS

- Active and passive isolation
- Effective insulation even at low frequencies, i.e. 1 Hz
- Shock absorption (on SLM range)
- Noise reduction
- Automatic levelling
- Avoid costly civil engineering works, quickly install and move machines
- Low-height, easy to integrate

CHARACTERISTICS

Load on each support	10-60.000 kg
Natural frequency	01 – 05 Hz
Diameter	80 to 610 mm
Floor anchoring	Yes, with SLM SLMU
Internal shock absorption	Yes

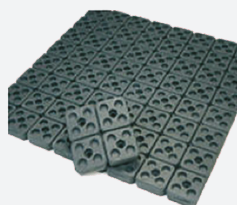
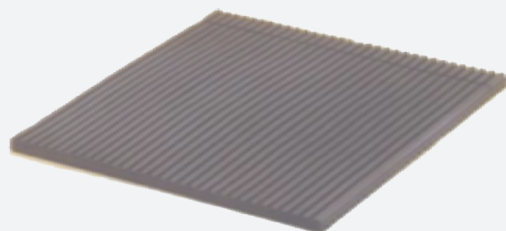
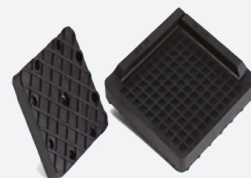
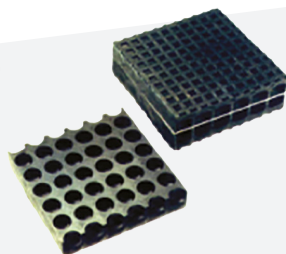
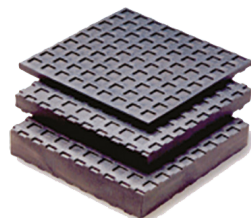


PRODUCTS

ANTI-VIBRATION SOLUTIONS

PLATES AND SUPPORTS

- Plates designed to optimize insulation and damping performance
- Multipurpose and applications
- Cut to shape
- Natural or nitrile rubber
- Polyurethane elastomer



CHARACTERISTICS

Load	0,3 kg/cm ² - 138 kg/cm ²
Natural frequency	08 – 25 Hz
Max. format	500 x 500 mm
Anti-slip	Yes

CYLINDRICALS MOUNTS & BUFFERS

- Cost-effective, multi-purpose mounts
- Compression and shearing mounting
- Natural rubber (NR 45/55/70 sh A)
- CR, EPDM, NBR, SI, rubber available on request,
- Stainless steel available 304L & 316L
- UNC mounting system

CHARACTERISTICS

Versions	A/B/C/D/E
Diameter	08 to 200 mm
Tixing	08 to 100 mm
Load	0,2 - 5.400 kg
Fixation	5 types

- Dampers
- Conical
- Plate
- Round



PRODUCTS

ANTI-VIBRATION SOLUTIONS

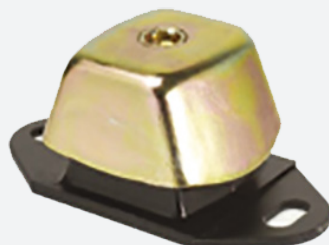
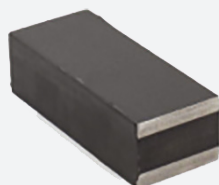
RUBBER MOUNTS

- Solutions for all uses and applications
- Assembly compression and cutting
- Natural rubber - NR 45/55/65/75 sh A
- CR EPDM NBR rubber available on request
- Manufacture of insulator-dampers according to customer specifications and drawings
- Anti-tear safety system

CHARACTERISTICS

Load on each support	1- 2.400kg
Natural frequency	08 - 25 Hz
Mounting system	Yes
Secure fitting	Available

- Engine supports
- Cab supports
- Long-stroke supports
- Tracks
- Anti-Noise Attachment System

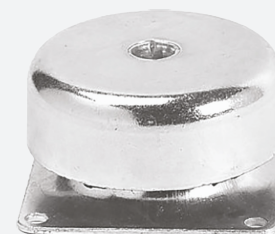


DAMPERS

- All attitude mount
- Compression, shearing, traction
- High stock resistance
- Failsafe mounting

CHARACTERISTICS

Load on each support	0.3 – 5900 kg
Natural frequency	15 – 25 Hz
Shock damping	Yes



PRODUCTS

ANTI-VIBRATION SOLUTIONS

SPRING VIBRATION ISOLATORS

- Low natural frequency < 5Hz
- Reliable computation of natural frequency
- Extended load range
- Integrated levelling system
- Overload capacity

CHARACTERISTICS

Load on each support	1 - 4.800 kg
Natural frequency	2.2 - 5 Hz
Levelling	Yes
Fixing	Yes



FLOATING SLAB INSULATION SYSTEM

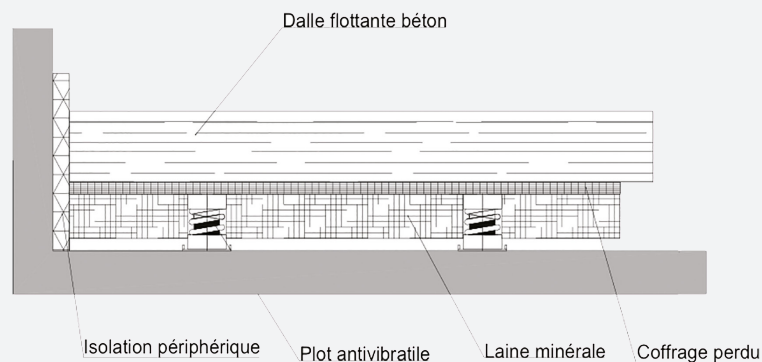
- Wood /mineral wool /insulator system
- Rubber insulators or steel springs
- Cut to slab format
- Customised analysis according to building specifications

CHARACTERISTICS

Load	Up to 900 kg/m ²
Natural frequency	04 - 12 Hz
Format	1500 x 1000 1000 x 1000
Height	68 and 133 mm



HIGH PERFORMANCE VIBRATION INSULATION



PRODUCTS

MOBILITES SOLUTIONS

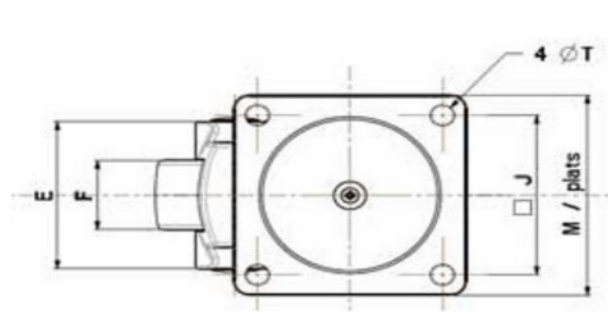
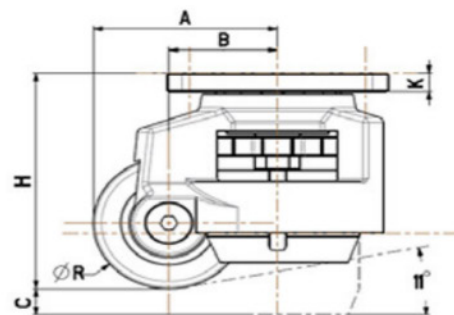
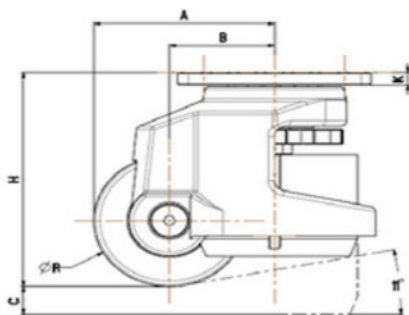
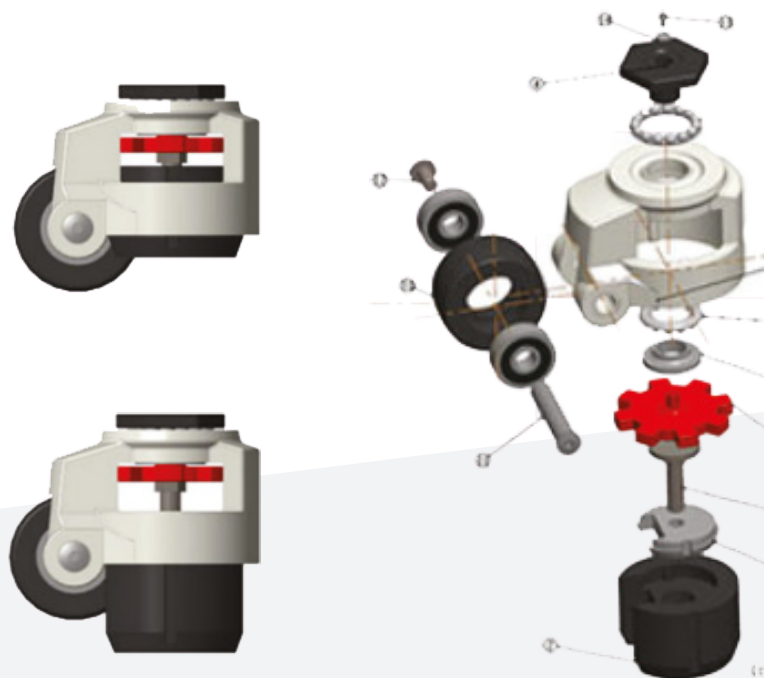


LEVELING CASTERS

- Greater mobility of your equipment
- Handle + immobilize + level + isolate
- High sturdiness
- Levelling up with a notched dial
- Chassis design simplified
- Anti-vibration rubber pad

CHARACTERISTICS

Peak load	50 – 3.000 kg
Fixing	Screw in center / 4 crew on flange
Levelling	Yes



PRODUCTS

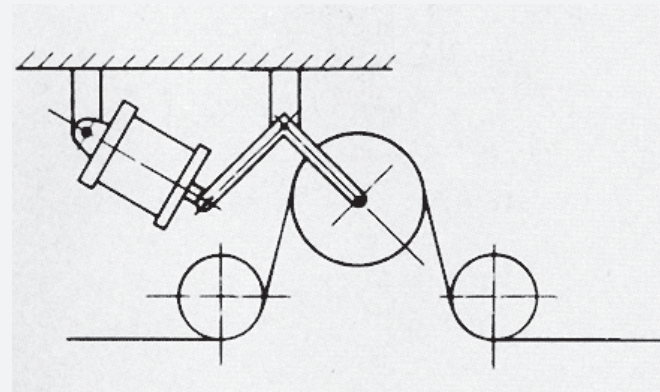
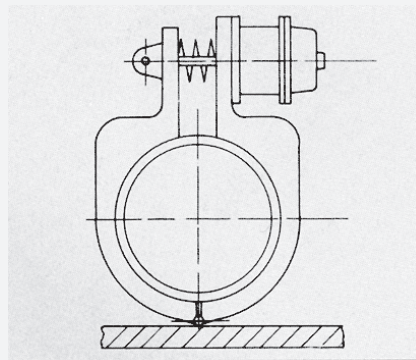
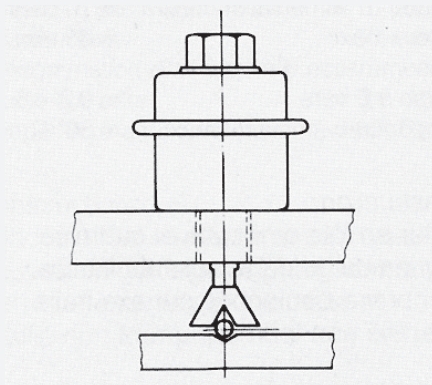
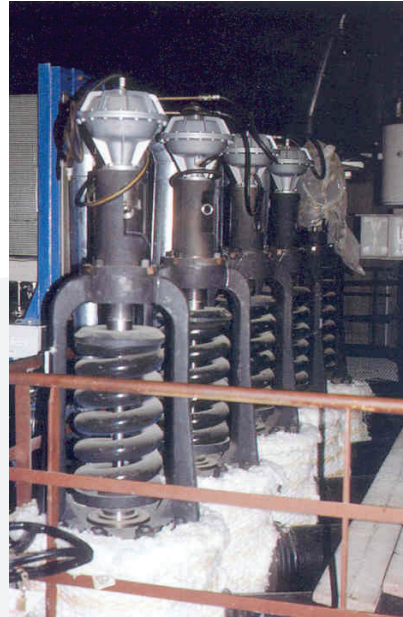
PNEUMATIC DIAPHRAGM CYLINDERS

DIAPHRAGM

- Membrane cylinder with rolling diaphragm
- Reinforced membrane
- Wide pressure setting
- No stick slip effect
- Works at low pressures
- Long service life
- Optimized maintenance costs
- Low operating costs
- Low hysteresis

RANGES

KH Stress-strain 50 a 4000 daN 6 bar	Stroke 0 - 80 mm
MH Stress-strain 100 à 500 daN 6 bar	Stroke 0 - 110 mm



SERVICES



- National and international coverage
- Close to industry
- High performance ERP software
- Client information tools

➤ Engineering office

➤ Testing facilities

➤ Large network of local retail partners

➤ International partners

➤ UK, Germany, Spain, Russia

➤ Belgium, Romania, Turkey, USA, Switzerland



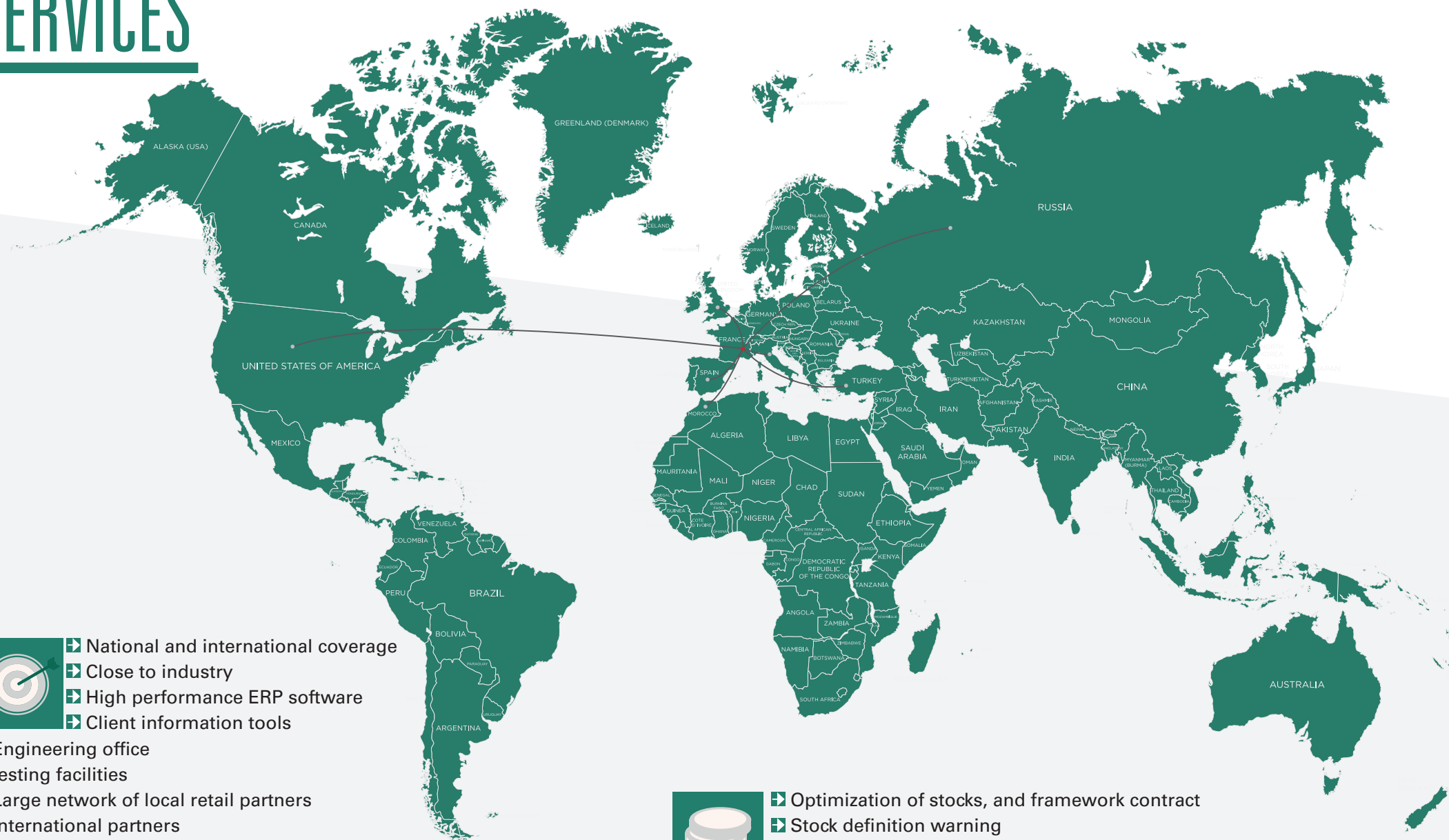
➤ Optimization of stocks, and framework contract

➤ Stock definition warning

➤ Optimized logistics designed to meet customer needs

➤ Reliable technical recommendations thanks to our

extensive experience in industrial applications





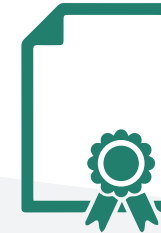
ACHIEVE PRODUCTIVITY
REDUCE COST
MANAGE YOUR PROJECT
USING EFFICIENT POLYMER
PARTS



SOLUTIONS DURABILITY OF
TECHNICAL QUALITY
APPROVE



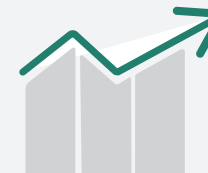
PARTNER INDUSTRY SINCE 60 YEARS
SUCCESSFUL VALIDATION
OF TECHNICAL
TESTS
INNOVATIVE MATERIALS



CEF POLYMERES SOURCE
OF INSPIRATION



CONTINUOUS IMPROVEMENT OF
PROCESSES AND TRAINING OF
EMPLOYEES



WINNING
PARTNERSHIP



SUPPORTS ITS CUSTOMERS SINCE 1961

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