



Flexible hoses - Expansion joints and bellows



Tubiflex SpA: The Company



Established in 1951, TUBIFLEX has an international standing due to its **Technology** and **Quality Level**.

Tubiflex owns an excellent know-how and is able to develop products concept and design as well as related production equipments

Tubiflex has been, since the very beginning, one of the most up to date, and **technologically advanced** company of the sector.

We at Tubiflex boast more than 60 years of experience in engineering and manufacturing of a broad range of **products** :

- Stainless steel annular corrugated hose, stainless steel helical convoluted hose, strip wound metal hose
- Stainless steel flexible **assemblies**
- Multilayer **convoluted** PTFE flexible hoses and assemblies
- Multilayer convoluted flexible hoses (Aluminium, Kraft Paper, Fibreglass, PVC Polyvinyl chloride)
- Metal **expansion joints** and **bellows**
- Corrugates hoses for heat exchangers

Out of the standard product portfolio, Tubiflex design, and manufactures **special products**



Some figures about TUBIFLEX

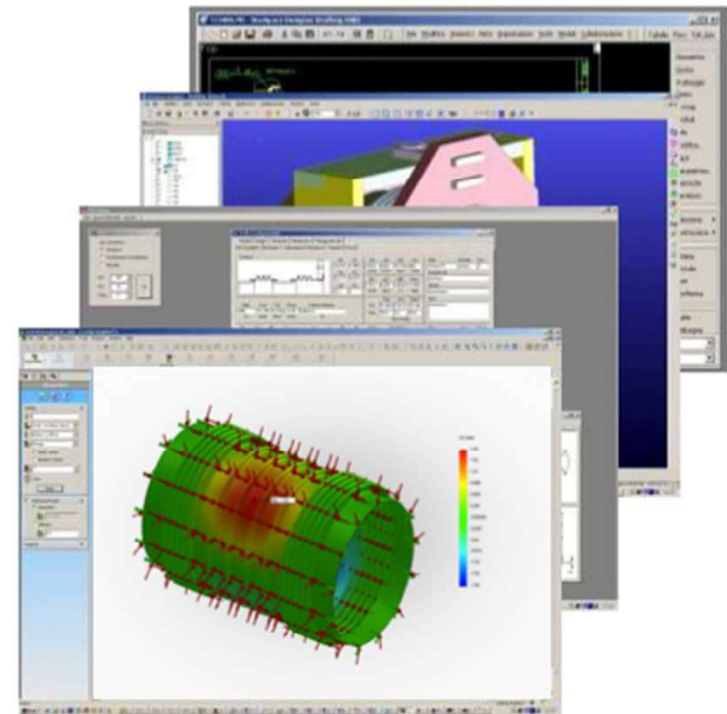
1951	Year of foundation
160	The staff
15	Engineers
22 Million €	The turnover
46%	Export share in Tubiflex turnover
Over 600	Strategical Customers
20,000 m ²	Production area
3,000 m ²	Offices and lab area



- ❑ **Support** to Customer from concept to development
- ❑ **Provide Value** to our Customers thanks to wide database of **solutions**
- ❑ Deliver Capability to develop **high performance products** based on:
 - Best fit hose type
 - Re-engineering project
- ❑ Approach feasibility and **life-cycle reliability** using:
 - Standard stress analysis packages
 - Proprietary calculation software
- ❑ Develop **tooling** and special machines **internally**
- ❑ Offering high **flexibility** in Prototyping



Designed to cost products



CAD, FEM and Modelling

EJMA Calculation

PARFLEX

Annular corrugated hose

- **Hydro-formed** or **mechanically** corrugated
- Single or **double wall** versions (enhanced flexibility and fatigue resistance).
- Size from 10 mm to 300 mm hydro-formed and from 6 mm to 100 mm in mechanical forming.
- Special versions available in customized material grade, thickness and pitch.

SUPERFLEX

Helically corrugated hose

- Mechanically profiled and resistance welded for a **unique flexibility**
- Single or **double wall**
- Single or double start
- Size from 4 mm to 150 mm
- Optionally with inner **copper liner**

PROTEX

Interlocked hose

- Square **interlocked** or fully **interlocked** profile
- Round, polygonal or multisided cross section
- Optional internal gasket for hose **sealing**
- Deliverable PVC shrouded
- Size 8 mm to 500 mm
- Special versions zinc-plated available



Tubiflex SpA: Standard Composite Flexible Hoses



TUBIFLON

Convuluted PTFE hose helically corrugated

- Convolution of **PTFE** and **fiberglass** tapes
- Hose sintering (monolithic non porous PTFE internal wall, fiberglass antifriction external layer)
- Optionally internal **conductive** layer to avoid electrostatic charges
- Excellent **resistance** to **chemicals**, **pulsed pressure** and vibrations
- Reduced bending radius comparing with corrugated extruded PTFE
- Working temperature $-55^{\circ} \div + 205^{\circ}\text{C}$
- Braided version resistant to direct fire exposure; 800°C for 30 min.



KOPEX

Tape wrapped flexible hose

- Convolution of tapes in aluminium, paper PVC fiberglass and others
- Thermally glued by means of an adhesive polymeric film
- **Water** and **air tight**
- Excellent heat resistance (execution with **fiberglass** and **ceramic** fibers)
- Pliable at 180° with a bending radius $0,5 \times \text{OD}$
- Extensible up to the double of the length in compressed configuration



FLEXIBLE HOSES IN SPECIAL EXECUTION

Thanks to the internal capability to develop tooling and fixture, we provide all our range of hoses in special execution. Don't hesitate to get in touch with us for your most terrific ideas

- Annular corrugation hose with **square** or **triangular** profile
- Annular corrugated pliable hose with **straight portion** of pipe
- **Double wall** with intermediate insulating material
- Special tape composition for tape wrapped hoses
- PTFE hose with outer **protection** in interlocked hose
- Braided **inner liner** in annular formed hose
- Helically mechanically formed hose for **heat exchangers**
- Reflective aluminium hose with thermal shielding



ASSEMBLIES

We provide a unique portfolio of hose assemblies generated from the combination of our standard or special hose production

- Full **internal design** and experience
- Endless **references** in any application field
- **Double conduits**
- According to most relevant **certification** and **standards** requirements
- Highest quality thanks to leakage detection performed with helium or hydrogen with acceptance level of 10^{-6} mbar/l/s



we provide.... **unmatchable creativity!**

Tubiflex SpA: Expansion Joints and Bellows



MB - MASTER BELLOWS

Expansion Joints and Bellows

- Single, **multi-ply** bellows
- Expansion joint **axial** – **hinged** – universal - **pressure balanced**
- Engineered in house according to **EJMA** and **ASME** sct. III and VIII and **PED** standards
- Standard size from DN 50 mm to 2500 mm
- **Punch-formed** or hydraulically manufactured
- Materials AISI 321, AISI 316L, AISI 310, **Inconel**, **Incoloy**, **Hastelloy**.
- Other alloys available upon request
- Products range for operating pressures from PN 2,5 to PN 40,



WELDING

- **TIG** welding, semi-automatic or orbital
- **Patented** manual welders
- **Laser** welding
- **Plasma** welding
- MIG welding
- Brazing with copper alloy and silver alloy filler, induction brazing.



BENDING

- **Reduced** bending radius 1.5- 1 x OD
- Bending **thin wall pipes** in stainless steel, aluminium, titanium
- Bending of pipes with **complex layout**
- Automatic bending of **corrugated** hoses

BRAIDING

- **In house** braiding with 24-36-48 or 72 strands in AISI 304 / AISI 316L
- Single or **double braid** in stainless steel or zinc coated steel
- **Braid of braid** in stainless steel or zinc coated steel
- **Bronze** braid
- Braiding with **high resistance** stainless steel
- Braid made using special materials



Tubiflex SpA: Our Quality Certificates



- ☐ Approval ISO 9001: 2015 - SGQ 1568
- ☐ Approval EN 9100: 2016 - SCSA 11/B
- ☐ Approval IATF 16949: 2009 - TS 245
- ☐ Compliance with H/H1 Guideline 2014/68/UE (PED)
- ☐ Approved welders complying with ISO 9606
- ☐ Welding staff complying with EN 1418
- ☐ Welding processes complying with EN 15614 (former EN 288)
- ☐ NDT (Non Destructive Tests) Staff approved EN 473
- ☐ Bureau Veritas Rule No. 320 for manufacturing and testing processes
- ☐ Approved manufacturing processes for our products Parflex® Superflex® Tubiflon®
- ☐ Euroqualiflex member since 1981



Tubiflex SpA: Why choosing Tubiflex....



1. **Valuable** support to the Customer in design/re-engineering and optimization phase
2. High **flexibility** in Prototyping your most advanced ideas
3. Broad **success** track record in every flexible hose application
4. Endless product combination from our unique **basis-product** portfolio
5. **Highly structured** Company with up to date technology and qualified approach
6. A partner **striving** to provide high quality in product and process

