



**S**merefsa  
*Meet your silicone*

Silicone  
Manufacturing  
Pioneers





Meet your silicone

## Pioneers in Silicone and PTFE

EXPERTS IN THE INTEGRAL PROCESS



Merefsa was born in 1966 thanks to the enthusiasm and the entrepreneurial spirit of Senart marriage. After more than 50 years of professional career, with a constant evolution and technological investment, Merefsa is pioneer in the transformation processes of Silicone and PTFE.

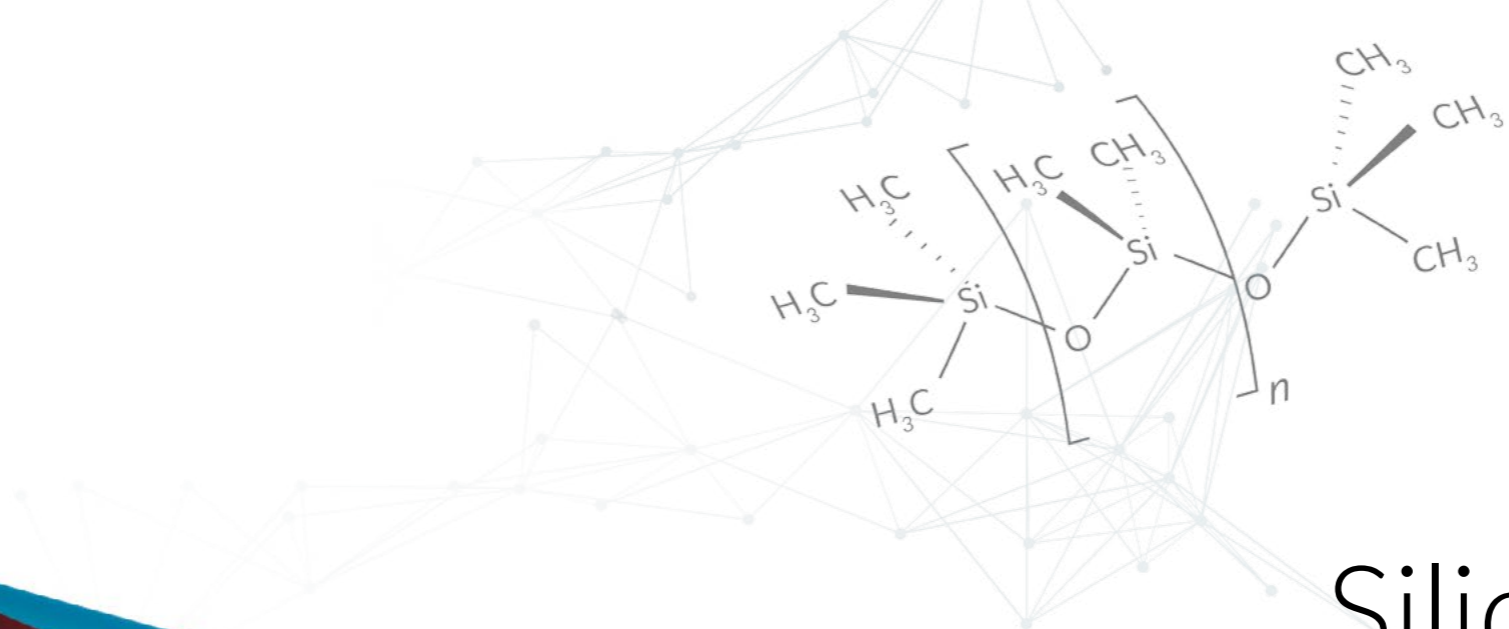
Thanks to our own manufacturing processes of Silicone and PTFE: mix and additive blend, Silicone extrusion, welding and moulding, die cutting, cutting, laser marking and machining, we can offer to all our customers a wide range of customized solutions, for both large and short series.

Our service vocation to the customer has been strengthened by Merefsa moving to the new facilities in Can Calderon industrial park in Viladecans. The proximity to the main means of communication that connects us with the port, airport and Barcelona's city center, makes possible to speed up the distribution and delivery of our products both nationally and internationally.

Nowadays, our product is commercialized worldwide, exporting regularly to more than 30 countries.



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# Silicone

## Vinyl Methyl Siloxane

**Thermal resistance:** Excellent performance and stability (from  $-55^{\circ}\text{C}$  up to  $+225^{\circ}\text{C}$ ). With different additives and compositions from  $-90^{\circ}\text{C}$  up to  $+320^{\circ}\text{C}$  in dry heat and  $+150$  in contact with steam (moist heat).

**Atotoxicity:** Inert material suitable for medical and pharmaceutical use and food contact.

Non-porous, hydrophobic surface with low gas permeability.

Excellent dielectric properties.

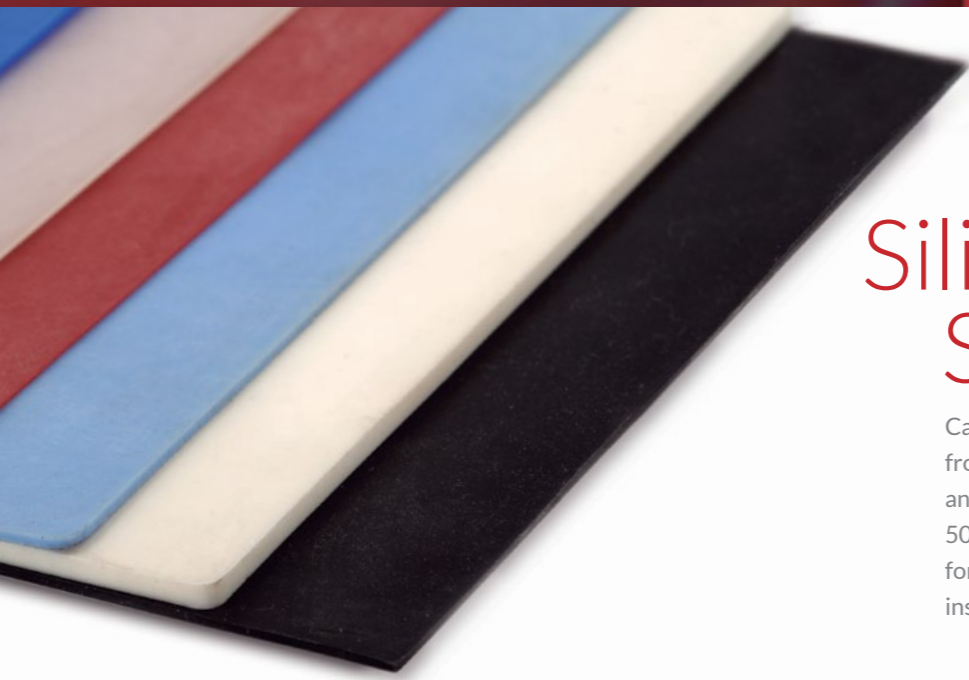
**Mechanical properties:** Low mechanical properties in general terms, which comparatively improves against other elastomers at temperatures above  $+130^{\circ}\text{C}$ . The intrinsic properties of the Silicone can be modified with a wide variety of additives in order to offer customized solutions. We have special Silicone formulations from platinum based to peroxidic such as High Mechanical resistance, wear resistance, high elasticity, high tear resistance, steam resistant, conductive, metal-detectable, etc

**Chemical and environmental resistance:** Excellent behavior against most chemical agents, including weather, ozone and UV radiation. Low performance against greases, solvents and hydrocarbons. For all these cases, we have fluorosilicone formulations.

**Colour:** In its natural state, the silicone is a high translucency elastomer that allows to be easily pigmented. A wide range of colours can be obtained such as phosphorescent, fluorescent and metallized colours.

**Hardness and density:** Our range of compact HTV Silicones offers from 20 Shore A up to 85 Shore A hardnesses (our standard is 60 Shore) and in sponge HTV Silicones the density range goes from  $0,15\text{ g/cm}^3$  up to  $0,8\text{ g/cm}^3$  (our standard is  $0,25\text{ g/cm}^3$ ). Contact us for any liquid Silicones (LSR) request.





## Silicone Sheets

Calendered Silicone sheets with thicknesses from 0,3 mm up to 20 mm in 1200 mm width and moulded sheets from 1 mm to 40 mm in 500 x 500 mm format. Available in any colour/ formulation and with adhesivation or textile inserts. Also in different dimensions.



## Regular Silicone Profiles

Square and rectangular Silicone profiles from 1 mm up to 120 mm base and heights from 0,5 mm up to 60 mm. Standard and custom length rolls.

## Silicone Cords

Silicone extruded cord with diameters from 1,5 mm up to 70 mm in any roll length. Also, production of parts starting from 1 mm length produced with continuous cutting.



## Shaped Silicone Profiles

Manufacture of Silicone profiles of any shape under request with drawing or sample according to customer needs. More than 6000 extrusion dies already available. You can browse our dies library in our app [www.meetyoursilicone.com](http://www.meetyoursilicone.com).

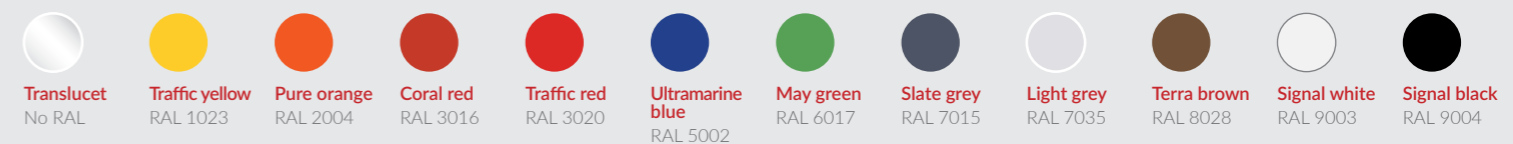


## Hoses and Silicone Tubes

Silicone extruded Tubes with an inner diameter from 1 mm up to 120 mm and thicknesses from 0,25 mm. Rolls in standard lengths or customized, also production of cut parts in continuous starting from 1 mm length.

	ESTÁNDAR	PLATINO	ALTA TRANSPARENCIA	METAL DETECTABLE	ALTA RESISTENCIA MECÁNICA	FLUROSILICONA	VAPOR	CONDUCTORA	RETARDANTE DE LLAMA	INSERTO TEXTIL	ADHESIVO	FDA	USP CLASE VI
Plancha de Silicona Compacta	•	•	•	•	•	•	•	•	•	•	•	•	•
Cordón de silicona Compacta	•	•	•	•	•	•	•	•	•	•	•	•	•
Mangueras y tubos de silicona Compacta	•	•	•	•	•	•	•	•	•	•	•	•	•
Perfiles rectangulares de Silicona Compacta	•	•	•	•	•	•	•	•	•	•	•	•	•
Perfiles con Forma de Silicona Compacta	•	•	•	•	•	•	•	•	•	•	•	•	•

### STANDARD COLORS



Any other color upon request





## Sponge Silicone Sheets

Sponge Silicone sheets with thicknesses from 1 mm up to 40 mm in 1000 mm standard width and up to 10 m long. Adhesivation and laser marking available.



## Sponge Silicone Cords

Sponge Silicone extruded cords in a wide variety of densities and diameters from 1 mm up to 100 mm in any roll length.

## Regular Sponge Silicone Profiles

Square and rectangular Sponge Silicone profiles from 1,6 mm up to 100 mm either in base or height. Standard and custom length rolls.



## Shaped Sponge Silicone Profile

Production of Sponge Silicone profile of any shape under request with drawing or sample according to customer needs.



	ESTÁNDAR	ALTA TEMPERATURA	DETECTABLE	UL-94 V0	ADHESIVO	FDA
Planchas de Silicona Esponjosa	•	•	•	•	•	•
Cordones de Silicona Esponjosa	•	•	•	•	•	•
Perfiles Rectangulares de Silicona Esponjosa	•	•	•	•	•	•
Perfiles Con Forma de silicona Esponjosa	•	•	•	•	•	•

## Reinforced Silicone Tubes

Manufacturing and supply of reinforced Silicone tubes with polyester mesh or fiberglass fabric. Inner diameters from 3 mm up to 50 mm and outer from 8 mm up to 64 mm. Bending radius starting at 30 mm and working pressure from 2 bar to 50 bar.



## Inflatable Silicone Seals

Manufactured with High Mechanical Strength Silicone. Silicone or metal valve available.



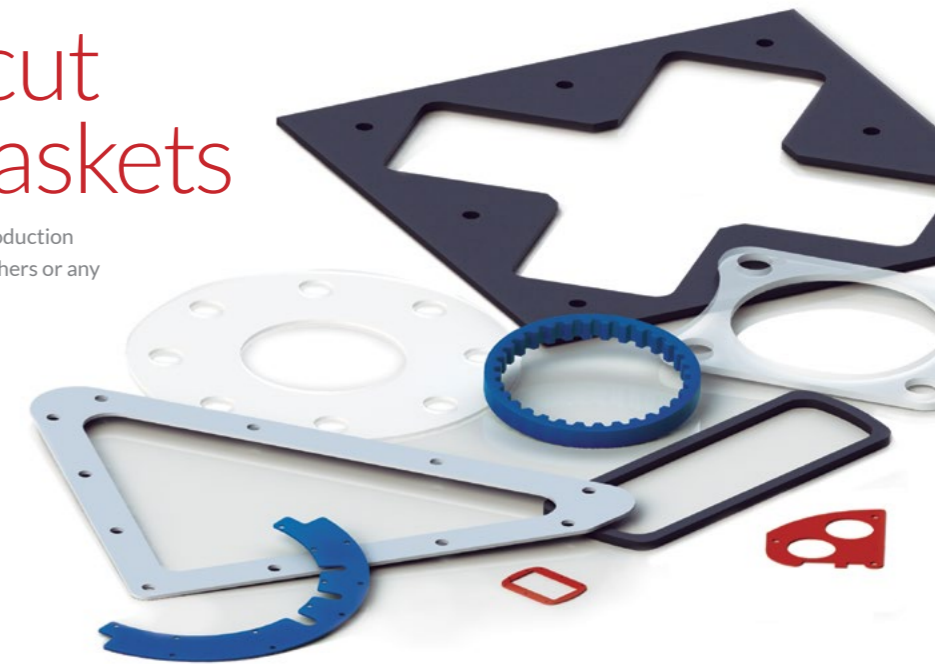
## Moulded Silicone Gaskets

Customized gaskets, either from customer drawing or sample. From small series to large number of pieces. In house mould toolshop.



## Cut and Die-cut Silicone Gaskets

Many cutting technologies available for production of customized Silicone sealing gaskets, washers or any kind of part from drawing.



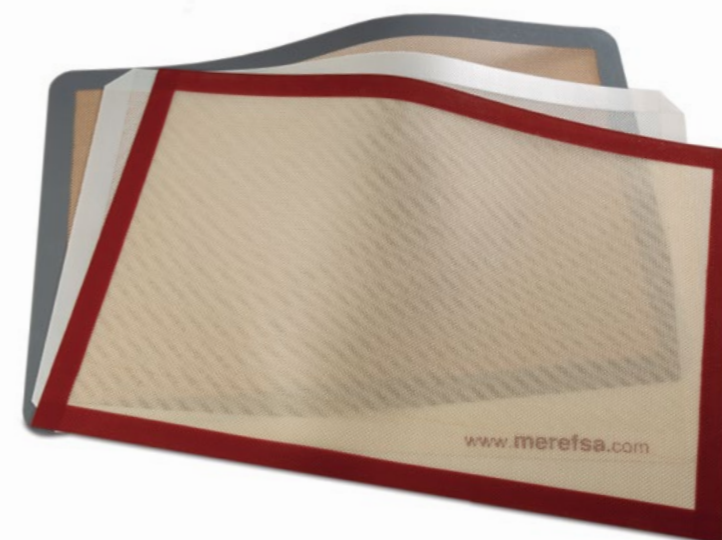
## O-Rings

Moulded O-ring manufacturing or possibility of cord vulcanized/adhesivated union.



## Welded Frames

Silicone frame vulcanization welding.



## Qualisil

Silicone coated cooking mats for ovens suitable for food contact. Available in different formats.



# PTFE

## Polytetrafluoretileno

Polytetrafluoroethylene (PTFE) is a fluorinated polymer formed by a succession of molecules composed of two fluorine atoms (F) and one Carbon (C) which turns it into an inert and non-sticky material.

The fluorine atoms which are in the atomic structure of the PTFE create a practically impenetrable barrier against the attack of other molecules of different chemical composition, preventing their reaction with carbon.

The intrinsic properties of PTFE can be modified by the addition of different kind of components. The most common ones are glass, mineral salts (VX1), carbon/graphite, stainless steel, bronze and molybdenum disulphide.

The most important properties of PTFE are:

**It has a low coefficient of friction (<0,1).** The only solid material that we can find in nature with a lower coefficient is ice and, nowadays, the synthetic graphene.

**It is an inert and non-sticky material.** Very resistant against chemical attack of a wide range of products: it has a high resistance to ozone, concentrated and dilute acids and bases, hydrocarbons and organic solvents.

**Excellent thermal resistance.** Its behavior is excellent in a wide range of extreme temperatures. This range goes from -200°C up to +260°C without disturbing its physical properties. It has an average melting point around 342°C.

**It has excellent dielectric properties.** It's a great electrical insulator due to a dielectric constant of 2,1 and a power loss factor of 0,0002.





## Glass Fabric Rolls

PTFE coated

Available in different thicknesses and adhesive backed, antistatic, porous, chemically treated for one side adhesion and aramid core. Mesh with size from 1 mm x 1 mm up to 5 mm x 5 mm.

## Belts and Meshes

PTFE coated

Bands of width up to 3600 mm with Alligator, Clipper, Bullnose, Peek, Welded or Jagged splice, heat-sealed or sewn lateral reinforcement.



## Slit Rolls and Zone-tapes

PTFE coated

Rolls with or without adhesive backing, cut to desired size from a minimum of 5 mm width. Also, zone-tapes with strips of adhesive on the outer edges.

## Cooking and Baking Sheets

Specialty in high quality cooking and baking mats impregnated with PTFE for ovens and suitable for contact with food. Customized die-cut sheets.



## O-rings with VMQ/FKM/EPDM core

Encapsulated FEP/PFA

Encapsulated FEP/PFA seals with Silicone, FKM or EPDM core, either toric, rectangular (Camlok) or oval shaped.



## PTFE Films

Skived film from 0,1 mm up to 4 mm in different widths. Available as adhesive-backed film or chemically treated for one side adhesion.



## PTFE Sheets

Moulded PTFE sheets from 1 mm up to 100 mm thickness. It is possible to mould multicomponent PTFE For thicknesses of more than 3 mm.

## Bellows and Machined Parts

Machining of any kind of part from drawing or sample. Specialty in bellows, mechanical seals and customized gaskets. From a single unit to large series.



## Moulded or extruded PTFE Rods and Tubes

Moulded or extruded rods and tubes. Multicomponent parts available for special purposes.



## Smooth and Corrugated Tubes

Very thin wall tubes with inner diameter from 0,25 mm up to 25 mm and thicknesses from 0,4 mm up to 1,5 mm.



## Expanded PTFE

Sheets from 1200 mm x 1200 mm format and thicknesses from 1 mm up to 5 mm. Cords with diameters from 3 mm up to 10 mm. Regular profiles in rolls from 3 mm up to 40 mm width with the possibility of one side adhesive.







MIXING AND BLENDING OF HTV

EXTRUSION

CO-EXTRUSION

MOULDING

CUT

DIE-CUT

LATHE MACHINING

MILLING

BONDING

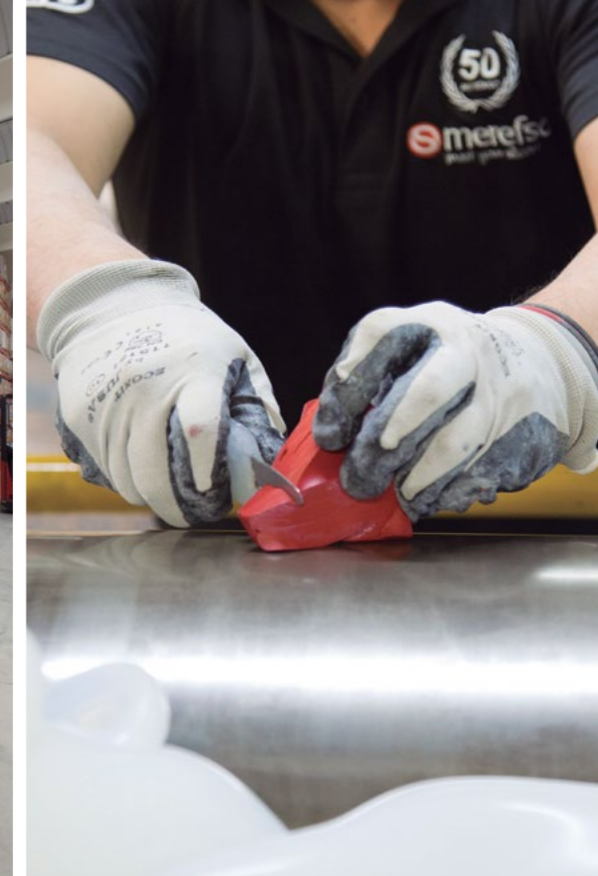
CHEMICAL TREATMENT

WELDING

LASER MARKING

LASER CONTROL

WIRE EDM MACHINING

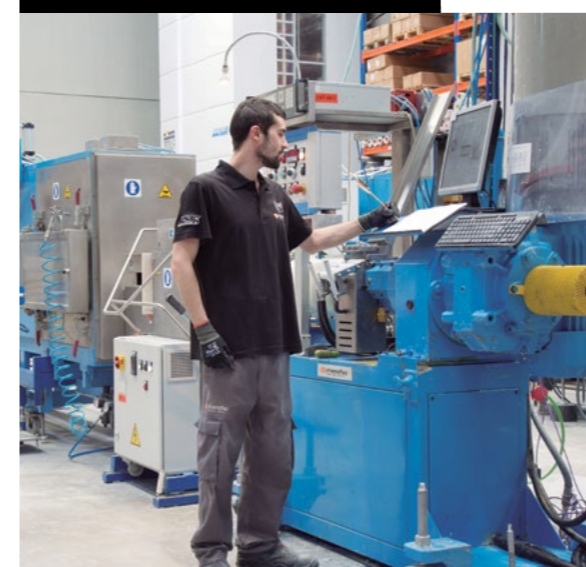


## Manufacturing processes of Silicone and PTFE

We have our own machining workshop for moulds, tools and die-cutters to fulfill our needs in the production processes. We have a machine park composed of wire EDM machines, a 4-axis machining center, manual and numerical control lathes and so on, which allows us to offer a very dynamic service with a very short lead time and high-competitive prices.

Our wide knowledge and experience in both Silicon and PTFE, allows us to support our customers in the design of new parts from our Technical Office and give them the best solution for new applications or necessities.

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# Quality Control

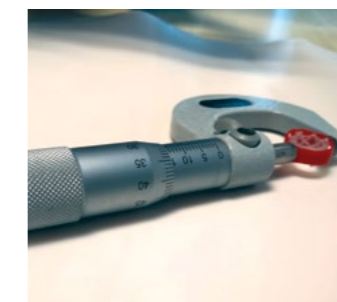
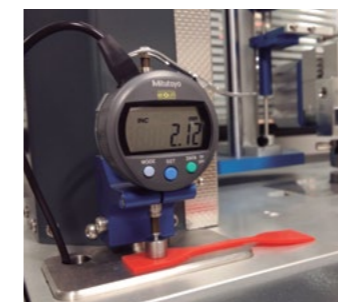


## Quality Control.

The last step in order to obtain the unbeatable product.

In our laboratory, we analyze and control all the productive processes: Mixture preparation, physical-chemical properties analysis of all our materials and finished-part dimensional control.

Our manufacturing process and computer support (ERP) allows us to have a documentary traceability of our products, from the raw material to the finished parts. In Merefsa we monitor the whole manufacturing process and for this reason we can offer an unbeatable quality.



### HIGH-TECH EQUIPMENT FOR QUALITY CONTROL:

Compact OD Rheometer PC: for the analysis of the vulcanization process.

Viscometers Mooney compact PC: for viscosity tests.

PC Dynamometer: for tensile strength tests, elongation at break and tear resistance.

Electronic Densimeter PC: for density tests.

PC-Micro-IRHD Automatic Hardness tester: for measuring the hardness on Micro-IRHD scale.

PC-IRHD Automatic Hardness tester: for measuring hardness on IRHD scale.

PC-Shore A Automatic Hardness tester: for measuring Shore A hardness.

Raypa Oven: for testing the ageing, compression set and the resistance against swelling in liquids.

Multi die-cut tool with adjustable parts in order to obtain standard test specimens.

Laboratory mechanical Press: maximum working pressure of 250 atm.

Laboratory Cylinder: for the preparation and homologation of new mixtures.

$$p(x) = \lim_{k \rightarrow \infty} \frac{\Delta m_k}{\Delta V_k} \approx \frac{dm}{dV}$$

DISTRIBUTOR:



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