

Technical Construction

# SILICONES



## CATALOG

of sealing elements and  
component parts

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## 1. Silicone sealing elements.

### 1.1. Silicone seals for heat chambers, smoke generators, climate chambers, refrigerator and pressure cooker.

Our company LLC “TCS Silicones” is a manufacturing enterprise in Ukraine, WORKS in the field of manufacturing technical products from silicone, rubber and other elastomers. We produce different types of sealants: simple (o-ring, square) and difficult (figured) from heat resistant, food grade silicone rubber. They are used for sealing of different equipment units.

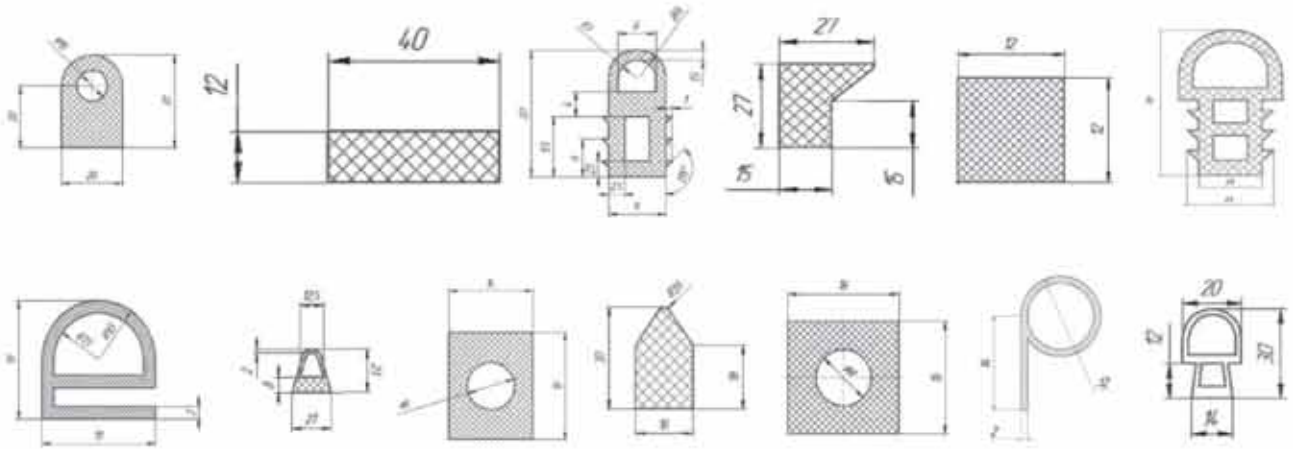
Sealants for refrigerators we produced both regular rubber (-30...+90°C) and silicone (-40...+250°C), individually for each client and his equipment.

We offer you a wide range of heat resistant food grade silicone sealants for your equipment:



- MAUTING;
- REX-POL;
- FESSMANN;
- AUTOTHERM;
- TRAVALINI;
- NESS;
- DykoTechnik;
- Kerres;
- JUGEMA

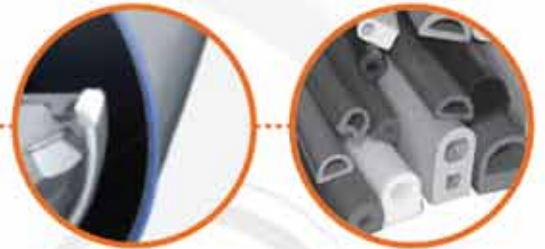
See some drawings below:



## 1. 2. Sealing rings for vacuum cutters, massagers and autoclave.

- Sealants and sealing rings for vacuum cutters:

- Kramer Grebe;
- ALPINA;
- KILIA;
- LASKA;
- Voronezh №1, №2, №3;
- NOWICKI.





### 1. 3. Rubber and silicone o-rings and square rings.

Applied materials: Silicone, OGR (oil-gas-resistant), HFAAR (heat-freeze-acid-alkali-resistant), food grade rubber.



### 2. Casing brake for clipping machines, syringes, twistlers.

- **HANDTMANN;**
- **Vemag;**
- **REX;**
- **Frey;**
- **KOMPO;**
- **Alphina;**
- **TECHNOPACK;**
- **Poli-Clip and etc.**





Rings are produced from polyurethane materials, the hardness of the product is possible in different types:

- 50 Shore A – soft, works well in natural casing filling;
- 70 Shore A – medium hardness, works stably both with natural casing and synthetic (polyamide);
- 90 Shore A – hard, is often used for synthetic casing filling.

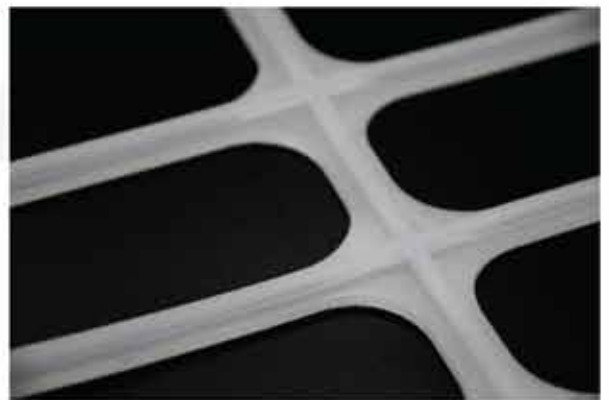
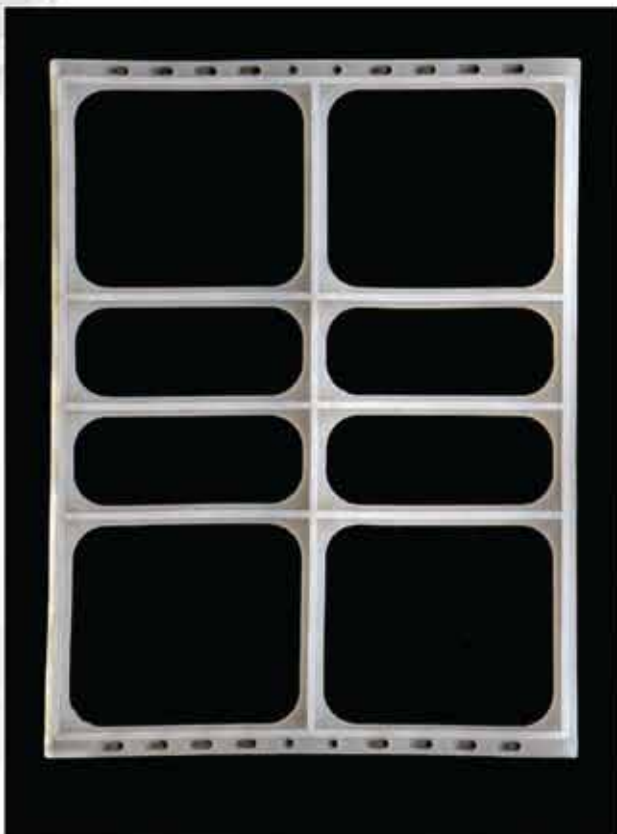
We have casing brakes in stock and they can be made to your individual order. They are produced both in a standard range from 0,8 mm up to 50 mm, and according to your individual customer request, sample. In average it takes from 10 to 15 working days to complete the order.

### 3. Silicone seals (grids) for thermoformers.

Thermoforming equipment is quite popular. It allows vacuum packing and packing in a gas-modified environment, plastic wrap. However, even the highest quality product sooner or later needs replacement of some spare parts (it can be damaged or worn out).

Our company “TCS Silicones” offers thermoformer grids. They are produced from safe and ecologically friendly materials. Its main characteristics are:

- durability;
- reliability;
- lifetime;
- resistance to mechanical, chemical and atmospheric influences;
- wear resistance;
- heat resistance;
- ease of exploitation.



“TCS Silicones” allows you to both purchase a finished product and make it to order according to the parameters provided by the buyers. All the products of the company fully comply with the quality requirements of the European level and will be delivered on time.

Company “TCS Silicones” offers the following grids:

- **Webomatic;**
- **Ulma;**
- **Tiromat;**
- **Dixie Union;**
- **CFS;**
- **Multivac.**

We can also help you find a perfect grid exactly for your type of thermoformer.



## 4. Metal products.

### 4. 1. Coating of sealing plates (PTFE).

Company “TCS Silicones” has the ability to provide you with the service of PTFE (fluoroplastic) coating of sealing plates for thermoforming machines (**Multivac, Ulma, Webomatic, Dixie Union, CFS, Tiromat** ) and other parts of food equipment.

#### Summary of PTFE:

- Heat resistance from -250°C up to +260°C (short-term up to +300°C);
- High antifriction, anti-adhesive and dielectric properties;
- High chemical and biochemical resistance (resistant to mast acids and alkalis);
- Biological inertness (PTFE is harmless to the body);
- Has food approval.

Apart from these our company can produce new metal parts according to a drawing and apply A non-stick coating (PTFE). We can apply coating on the surface of various parts and products (heating elements, welding knives, press forms, stamps and etc.). This will allow you to reduce the repair expenses and the cost of your production modernization giving it anti-adhesive and non-stick properties.



#### 4. 2. Sausage filler nozzle.

We supply sausage filler nozzles for syringes and clipping machines:

- Handtmann;
- REX;
- Poli-Clip;
- TECHNOPACK;
- FREY;
- KOMPO;
- VEMAG.



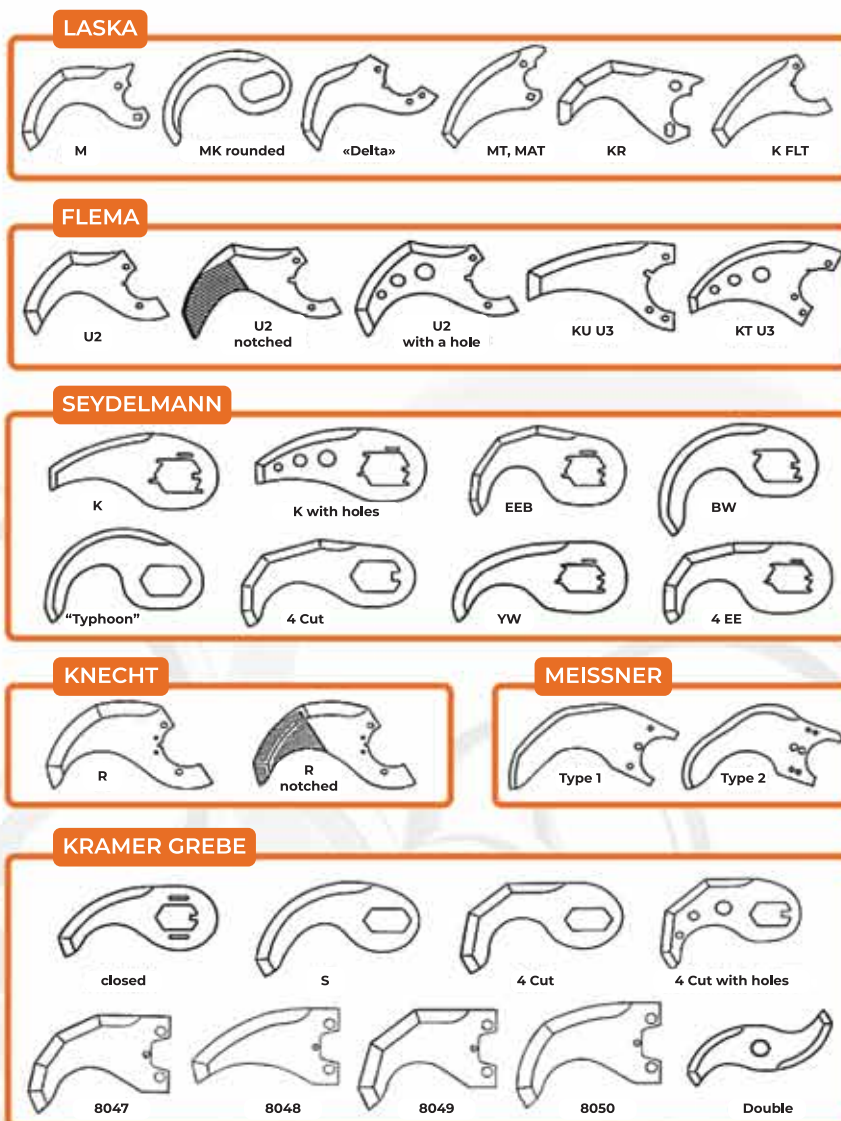
**Material:** AISI 304, AISI 321, AISI 316.

**Length:** from 200 to 500 mm.

**Internal diameter:** from 8 to 60 mm.

### 4. 3. Cutters and grids for different types of equipment.

We supply knives made of German made tool and stainless steel for cutters of the following manufacturers: **LASKA, FLEMA, SEYDELMANN, KRAMER GREBE, KNECHT** and etc. And also we supply grids and meat grinder knives of such equipment manufacturers: **Kramer + Greber, Spomasz, Berkel, Alexanderwerk, REM, Meisner, Atis.**



Cutters go through several of production processes, from raw blank to sharpening and polishing of the finished part.



**4. 4. Die and punch for clippers.**

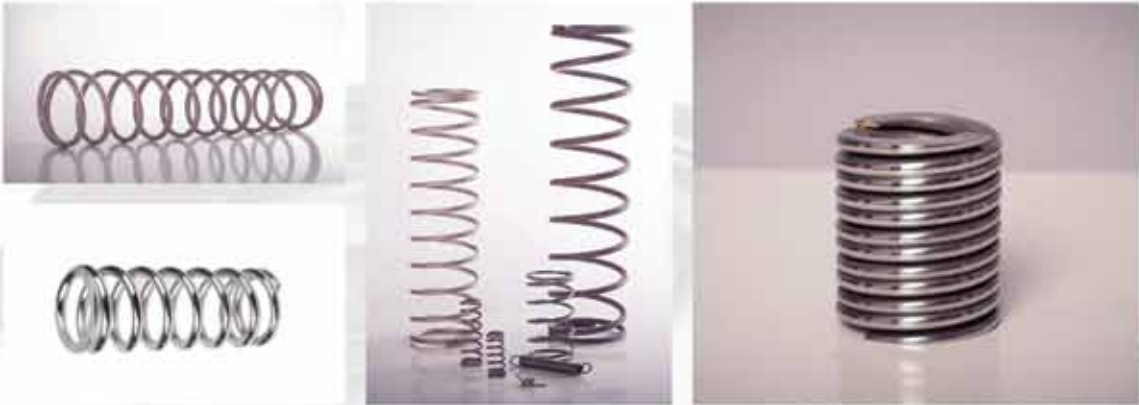
Consumables for the automatic clipper "Poly-Clip" FCA 3430-18
Die 15/8 - 30
Die 15/9 - 30
Die 18/7-36
Die 18/9 - 36
Die 18/10-36
Die 18/11-12-36
Punch 15/4
Punch 18/3-36
Punch 18/3-30

Consumables for the automatic clipper "Alpina" Swipper 18/15
Die 15/30-7
Die 15/30-8
Die 15/30-9
Die 15/30-11
Die 18/36-7
Die 18/36-9
Die 18/38-10
Die 18/36-11
Die 18/36-12
Punch 15/30
Punch 18/36
















































4. 5. Springs.

Torsion, tensile, compression springs are made from quality spring or stainless steel, coated and uncoated.



## 5. Rod seal and piston seal, wipers.

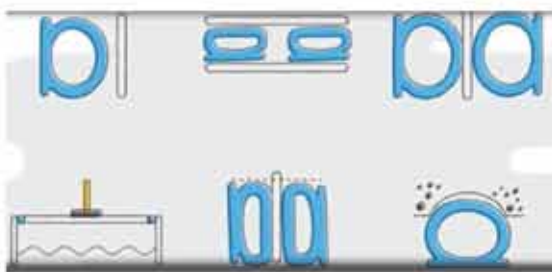
LIST OF SEALS					LIST OF SEALS					LIST OF SEALS				
CODE	PRODUCT NAME	DRAWING	APPLICATION	MATERIAL	CODE	PRODUCT NAME	DRAWING	APPLICATION	MATERIAL	CODE	PRODUCT NAME	DRAWING	APPLICATION	MATERIAL
KO	O-ring		Piston Rod	NBR	K16	Compact piston seal		Piston	NBR Cotton fabric NBR POM	K33	Rod seal		Rod	NBR Cotton fabric NBR POM
KX	O-ring		Piston Rod	NBR	K17	Piston seal		Piston	NBR PTFE	K34	Rod seal		Rod	NBR Cotton fabric NBR TPE POM
K01	Rod seal		Rod	NBR	K18	Compact piston seal		Piston	NBR TRE POM	K35	Rod seal		Rod	NBR PTFE
K03	Piston seal		Rod	NBR POM	K19	Piston seal for heavy duty		Piston	NBR PTFE POM	K36	Piston rod seal		Piston Rod	NBR Cotton fabric NBR
K04	Rod seal		Rod	NBR	K20	Compact piston seal		Piston	NBR POM	K37	Rod seal		Rod	NBR Cotton fabric NBR POM
K05	Wiper		Rod	PU	K21	Piston rod seal		Piston Rod	NBR PU	K38	Rod seal		Rod	PU
K06	Wiper		Rod	NBR PU	K22	Rod seal		Rod	NBR PU	K40	Piston seal		Piston	PU POM
K07 NBR	Metal wiper		Rod	NBR STEEL	K23	Piston seal		Piston	NBR PU	K41	Piston seal		Piston	NBR PTFE
K07 PU	Metal wiper		Rod	PU STEEL	K25	Pneumatic piston seal		Piston	NBR STEEL	K42	Compact piston seal		Piston	NBR TPE POM
K09	Wiper		Rod	NBR PU	K26	Piston seal		Piston	NBR STEEL SPRING	K43	Piston seal		Piston	NBR Cotton fabric NBR POM
K10	Double wiper		Rod	NBR	K27	Double wiper		Rod	NBR PU	K50	Pneumatic piston seal		Piston	NBR PU
K11	Wiper		Rod	TPE	K29	Damping seal		Rod	PU POM	K51	Pneumatic rod seal		Piston	PU
K12	Double metal wiper		Rod	PU STEEL	K30	Pneumatic combined seal		Rod	NBR STEEL	K52	Pneumatic piston seal		Piston	NBR PU
K14	V-type sealing ring			NBR	K31	Rod seal for heavy duty		Rod	NBR PU POM	K53	Pneumatic damping seal		Piston	NBR PU
K15	Piston seal		Piston	NBR PU	K32	Rod seal		Rod	PU POM	K54	Pneumatic piston seal		Piston	NBR



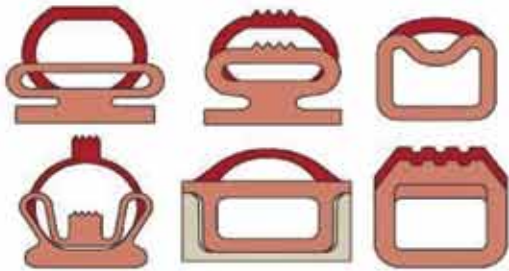
## 6. Pneumatic (inflatable) silicone seals.

Our company produces pneumatic seals. They are used to seal the doors of sterile rooms, hatches, separators, homogenizers, autoclaves, sterilizers, lids of different configurations for liquids and loose substances and other equipment.

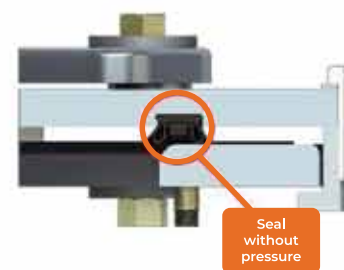
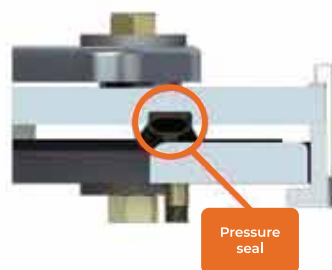
Seals are made of heat-resistant, food grade silicone rubber with a temperature range of operation from  $-40$  to  $+280^{\circ}\text{C}$ .



For fixing and pressing the object, air is supplied to the seal under pressure (up to 10 atm.), due to which the part is wrapped and hold. The varieties of compaction processes are shown in the picture.



In addition, the seals can take any configuration and maintain antibacterial effect throughout the entire service life, thereby increasing the period between costly washings of the equipment flow-through parts.



We produce inflatable seals of round, square and rectangular cross-sections according to the technical specifications and customer's drawings in order to avoid errors in calculations and subsequent execution of orders.

The range of products includes flat articles, diaphragms and over 50 profiles being **FDA** certified.



## 7. Silicone tubes for filling and dousing lines.

Silicone tubes are used for pumping and transporting liquids and gases of various consistency and density where food contact is needed.

We produce the following size range:

- int. Ø from 2 to 40mm.,
- wall thickness from 0,5 to 20 mm.

We also seal and glue silicone tubes in the form of rings for seals of containers and hatches.



## 8. Molding silicone, polyurethane and different types of plastic.

Assortment of manufactured products made of silicone and polyurethane:

- flat and corrugated suction cups (pneumatic equipment for gripping and transporting products);



- rollers, bolsters, bushings (transport equipment);



- impellers and couplings;



- service for restoration of polyurethane and silicone coating;



- bushings, rollers, gears from polyethylene, polyamide, polyacetal.



## 9. Silicone pads for sealed equipment.

These heat-resistant strips are used as pads for sealing milk bags in packaging equipment. High temperature range (up to +280°C) of this silicone rubber has a much longer service life than any other rubber.

Stripe size range is different. We make them both in standard sizes: 5x20x200, 3x17x200, 5x40x200, etc., as well as individually designed in accordance to the customer's specifications.



## 10. Gaskets for plate heat exchangers.

Available seal materials:

- **NBR**, temperature range -25...+130°C
- **HNBR**, temperature range -20...+160°C
- **EPDM/P**, temperature range -50...+160°C
- **FKM**, temperature range -25...+230°C

Today we supply on request rubber seals for plate heat exchangers of the following brands:

- **Alfa Laval** (M3, M6B, M6M, M10M, M10B, M15M, M15B, M20M(T20M), TS6M, TS20M, T5M, T20B, TL3P, TL6B, TL10P, CLIP6(FRONT 6), CLIP8(FRONT 8), CLIP 10(FRONT 10)); Type of mounting – **Clip-On**.
- **GEA Ecoflex** (VT04, VT10, VT20, VT20P, VT40, VT40M, VT80, NT50T, NT50M, NT50X, NT100T, NT100M, NT100X, NT150S, NT150L, NT250S, N40); Type of mounting – **Glued, Loc-in, EcoLoc**.
- **Sondex** (S4A, S7A, S8A, S9A, S14A, S19A, S20A, S21A, S22, S31A, S41A, S42, S43, S47, S62, S65); Type of mounting – **Hang-on, Sonder Lock**.
- **FUNKE** (FP09, FP10, FP14, FP16, FP22, FP31, FP40, FP41, FP50); Type of mounting – **Clip-On**.
- **Plate seal AF-2 adhesive** (A1-ООЛ-1.25, A1-ООЛ-10, A1-ООЛ-12.5, A1-ООЛ-25, A1-ОКЛ-2, A1-ОКЛ-2.5, A1-ОКЛ-3, A1-ОКЛ-5, A1-ОКЛ-10, A1-ОТВ, A1-ОНЛ-5, A1-ОПК-5, ОК2-П5, A1-ОНС-10, A1-ОНС-25, ОПЛ-15, ВКЛ-5, ВТП-У5, ОМВ-3, ОНД-5, ООВ-5, А1-ОМС, ВУО-1.2, ВУО-2.5, ФКЛ-1.25).



## Our clients



We ask you to consider this information for further cooperation.

It is possible to send you samples of silicone products,  
as well as visit your enterprise to service further work and  
solve existing production problems.



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