



**ZAGROS RUBBER MANUFACTURING**



**ADVANCING TECHNOLOGIES AND RAISING  
THE BAR IN TANK PERFORMANCE  
THROUGHOUT ENGINEERING EXCELLENCE**

● Tank Seals ● Tank Drain Systems ● Composite Hoses ● Roof Drain Systems

## Introduction Of The Company

Zagros Kabir Rubber Manufacturers started their activities in 1991 with the aim of producing rubber sheets in different types.

In this factory, which is located in an area of 2000 meters in Shokuhiyeh industrial town, specialized production of various types of rubber sheets (with different materials and thicknesses), production of various types of rubber conveyor belts according to ISO and BS standards, with different materials and hardnesses and with Having a compounding unit to produce all types of reinforced and unreinforced neoprene seismic absorbers with AASHTO M251, BS 5400, DIN 4141, ISO 6446, ASTM D4014, EN 1337 standards, according to customer requirements and needs, production of all required rubber parts Industries such as oil, gas, refineries and petrochemicals, power plants, steelmaking, ceramic tiles, piping, chemical industries, aircraft manufacturing, agro-industry, pharmaceuticals, textiles, defense industries, road construction machinery, bridges and buildings. The best materials will be provided to customers after laboratory inspection and approval of the quality control unit.





## Roof Sealing System

### Secondary Seal

**ZAGROS** seals offer an optimal solution for reduction of emission in the area between an external floating roof and the tank shell. Every tank is different and operating conditions vary significantly. Local requirements on emission reduction also play a major role and finally tank seals play a key role in prevention of rim fires and can therefore be regarded as safety critical equipment.

Within this challenging playing field of legislation, technical and safety requirements **ZAGROS** has a proven track record in supplying the optimal sealing solution. The range of seals we provide combines efficient design with optimum sealing throughout the complete rim gap.

#### Standards and safety

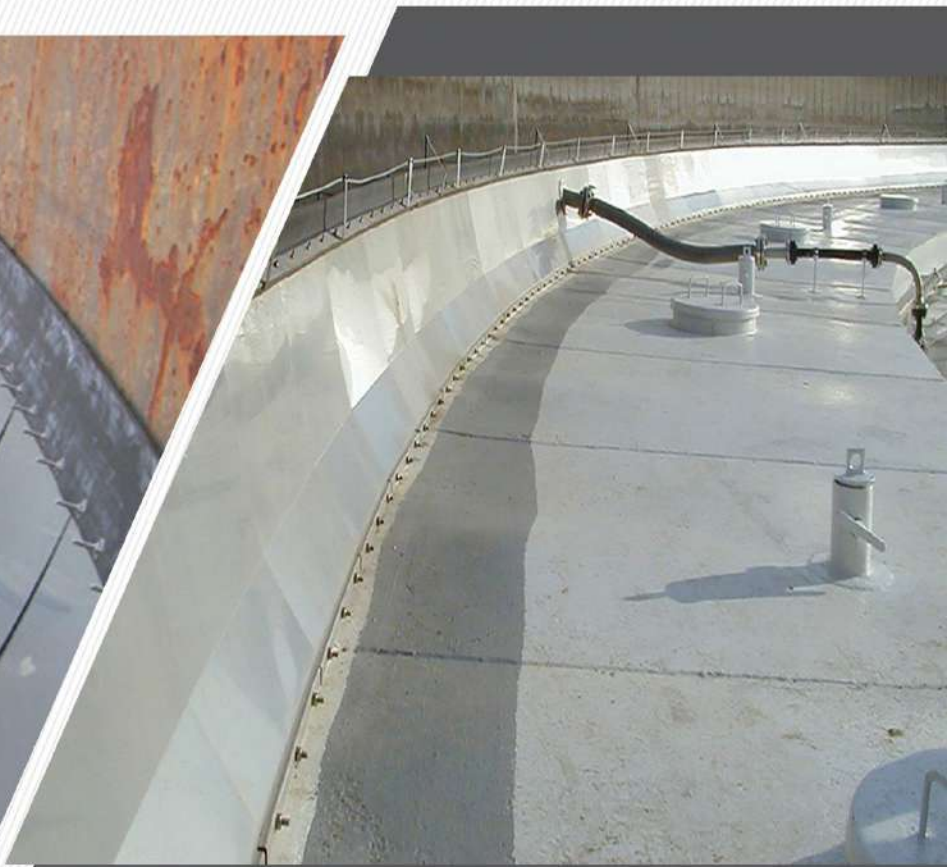
**ZAGROS** tank seals comply with all international standards such as API, EN, BREF IPPC, EPA, ATEX and NFPA as well as with specific requirements such as EEMUA, PGS 29 and VLAREM.

#### Engineering

During the engineering phase our team of engineers will review local emission requirements, safety aspects and tank geometry to tailor the seal to each specific tank. All other important properties such as material selection are taken into consideration for optimal performance of the seal. This ensures a long term maintenance free service life.

Seal materials have to withstand the stored product as well as the elements for longer periods of time. Our solutions will be suitable for dealing with these specific conditions. Completely in line with the sustainability vision all emission requirements will play a major role in the decisions we make during design.





**ZAGROS RUBBER**  
MANUFACTURING



## Roof Sealing System

### Primary Seal

#### LIQUID MOUNTED PRIMARY SHOE PLATE SEAL TANK SEALS

The first barrier against emission in the rim area of an external floating roof is the primary rim seal. It also serves as a safety device reducing the risk of combustible vapours in this area. The design of these primary seals is therefore very important.

Our seals solutions provide an optimal combination of reliability and performance with a low total cost of ownership. We offer a full range of primary seals in all common seal design types in a wide variety of materials, including all grades of stainless steel and galvanised steel.

Over the years our mechanical shoe plate seal has proven to be one of the most resilient and versatile solutions for sealing the gap between the tank shell and floating roof. It combines excellent sealing characteristics with very good product compatibility. The **ZAGROS** tank seal consists of metal shoe plates that connect to the tank shell, these shoe plates are fitted with scissors and pushed against the shell with special leaf springs. A suitable vapour barrier completes the seal.

This basic design will be tailored to each specific tank. This combination of proven technology and consideration for specific tank geometry makes our **ZAGROS** sealing system the best available technology for emission reduction on external floating roof tanks.



## Roof Sealing System

### Mechanical Scissor Type

#### Engineering

During the engineering phase our team of engineers will review local emission requirements, safety aspects and tank geometry to tailor the seal to each specific tank. This seal can be designed for large rim gap variations. All other important properties, such as material selection are taken into consideration for optimal performance of the seal. Proper material selection ensures a long term maintenance free service life. Seal materials have to withstand the stored product as well as the elements for longer periods of time. ZAGROS will provide an optimum sealing solution that is suitable for dealing with these specific conditions. Completely in line with our sustainability vision all emission requirements will play a major role in the decisions we make during design.

#### Complete solution

The ZAGROS sealing solution is complete from engineering to commissioning. We will provide a turn key solution, experienced supervision or supply drawings, installation manual and installation advice that offer the opportunity for local crews to install the seal as well without compromising safety, durability or performance.

#### Standards and safety

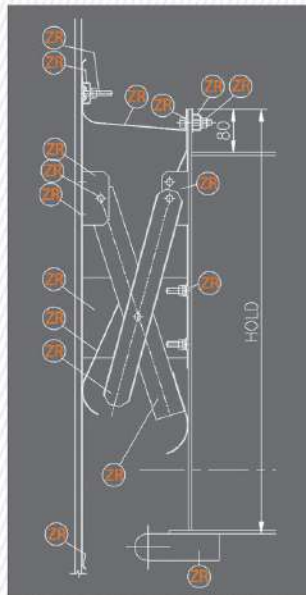
Our tank seals comply with all international standards such as API, EN, BREF IPPC, EPA, ATEX and NFPA as well as with specific requirements such as EEMUA, PGS 29 and VLAREM etc.

#### Support and assistance

If this datasheet triggers more questions our team of experts will be always available to support and assist you in selecting the optimal solution for your specific application.

#### Seal materials

Not just the design of the seal is important for its performance. Correct material selection is also very important to ensure a long term adequate performance for any seal. Seal materials have to withstand the stored product, ozone, UV-exposure and rain water contact. ZAGROS is able to give you a reliable advise on the optimal combination of materials. This ensures an economic seal design that is able to deal with the specific conditions.



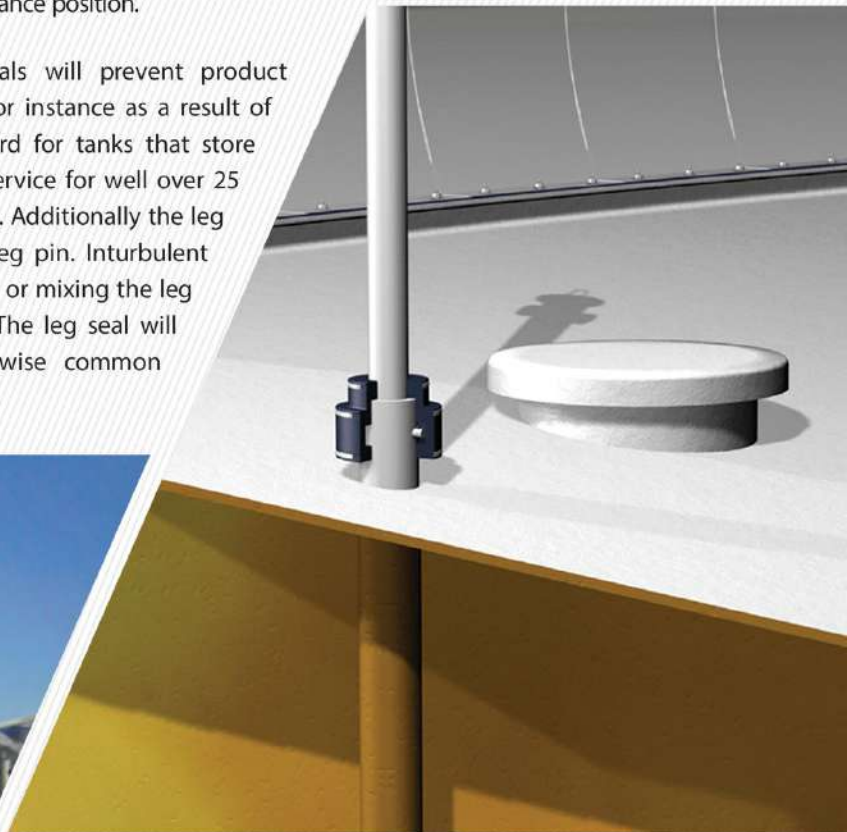
## TANK ACCESSORIES

## NON VAPER CAP

### LEG SEAL FOR FLOATING ROOF TANKS

The leg seal is developed by us in 1991. During the years in service since then they have shown to be a reliable and efficient solution for roof leg emissions and corrosion prevention in the leg sleeve area. The leg seal consists of two scales, manufactured from flexible material, which cover the leg on the top and the sleeve on the bottom. The contact surfaces of both scales fit together with tongue and groove connections creating a very efficient seal between the two scales. Finally rigid stainless steel hose clamps fit the scales together. To make the leg fully gas tight pin hole seals will be included for legs with open holes for maintenance position.

Besides significant emission reduction leg seals will prevent product splashing on top of the external floating roof, for instance as a result of mixing. Our leg seals have become the standard for tanks that store volatile hydrocarbons. The first leg seals are in service for well over 25 years in service and are still in excellent condition. Additionally the leg seal will serve as an additional guards for the leg pin. Inturbulent operation, such as occurs with frequent operation or mixing the leg pin may get loose and drop out of the sleeve. The leg seal will prevent the damages arising from this otherwise common damage mechanism.



Leg seal

Leg size inches	Sleeve size inches	Upper inside diameter mm	Lower inside diameter mm	Height mm
2.5	3	75	90	200
	3.5	75	102	200
3	3.5	89	102	200
	4	90	115	165
	4	90	115	200
	4	90	115	225
4	5	115	145	165
	5	115	145	225
	5	115	145	242

Pin hole plug

Hole size mm	Diameter mm	Height mm
30	70	29
35	70	29
38	70	29
42	70	29
45	70	29
50	70	29





## TUBE SEAL SYSTEM

### Primary Tube Seal

#### TUBE WIPER SEAL

This seal is designed to install a double sealing system, which is composed of PRIMARY TUBE LIQUID SEAL AND SECONDARY WIPER SEAL and prevents vapor loss of liquid products completely. NBR/PVC envelope materials are also available to provide long service life for ZAGROS products tank. This standard design can effectively reduce VOC emission and product losses. We believe this type of seal design will give you the most reliable seal performance on your tank.

#### Solutions

Liquid mounted gas tight seal type for maximum emission reduction

- Optimal service life (expected more than 15 years)
- Best available emission control technology per EPA and IPPC BREF
- Optimal operability in all hydrocarbons and chemicals, including 100% aromatics
- Seals can be supplied per API 650

#### Highlights

Custom designed and manufactured for each specific tank and product service

- Short installation time with experienced supervisor or full installation crews
- Durable with low total cost of ownership
- Turn key solution. engineering, supply and installation available
- Only fire retardant sealing materials are used





**TUBE SEAL SYSTEM**

**Primary Tube Seal**





Pantograph Type Shoe Plate Seal



Tube Seal



Mechanical Seal



Weather Shield



Double Seal



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