

Tunnel Segment Gaskets



www.Abrizsazan.com

Quality is our highest priority

Who we are?

Abriz Sazan Industrial Group (ASIG) Co. was founded in 2002, fundamentally is a manufacturer of special polymeric components.

In a 15 year of non-stop working period, our professional experts have been designing and manufacturing various kinds of polymeric components such as tunnel segment gaskets for subway tunnels and water and waste water transferring systems that are just some examples of many golden cards of our activities.



The strengths of ASIG TSGs

The Tunnel Segment Gaskets (TSGs):

- strongly prevent water infiltration when the segments come together.
- are resistible against ground movement.
- have been tested and are proven for critical conditions.
- have a long term sustainability, and are resistive against chemical and microbiological situations.
- are designed and manufactured in desirable forms and types according to request.
- Utilize a cold corner jointing system.
- are made of EPDM that provides both the sealing and material qualities required.
- are easy to install and to fit in grooves;

Quality Statement

ASIG insist on "high strength and high quality" products and services that always meet or exceed the desires, requirements, and expectations of customers. Our quality statement is distributed to our board, management and staff. Procedures and practices that affect product quality are formally documented and controlled.

We offer a range of gaskets according to the customers' requirements, and have an experienced technical team that are designing and testing gasket profiles both in our laboratories and specialized laboratory centers to achieve a high performance and quality assurance. All designs are verified by testing in required conditions.

Standards & Procedures

ASIG's tunnel segment gaskets are being used successfully in subway tunnels and water transferring systems. TSGs meet international standards of ASTM and STUVA procedures in which some standards are according to the requirements of ISO/IEC-17025.

Gaskets profiles have been verified both in in-house laboratories and Razi Metallurgical Research Center (RMRC)¹. The following tests have been done on the gaskets:

	Test	Standard / Procedure
1	Elongation / Tensile	ASTM D 412-06a (ISO/IEC-17025)
2	Hardness	ASTM D 2240 - 05 (ISO/IEC-17025)
3	International Hardness	ASTM D 1415
4	Compression Set	ASTM D 395-03
5	Deterioration in an Air Oven (aging)	ASTM D 573
6	Effect of Liquids (Swelling in Oil & Water)	ASTM D 471-06
7	Water Absorption of Plastics	ASTM D 570-98 (2005)
8	Water Absorption of Cellular Elastomeric Gaskets and Sealing Materials	ASTM C1083
9	Cracking in an Ozone Controlled Environment	ASTM D1149-D1171
10	Flame Propagation of Dense and Cellular Elastomeric Gaskets and Accessories	ASTM C1166
11	Load Deflection	STUVA Procedure (2005)
12	Water Tightness	STUVA Procedure

ASTM: ASTM International is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.

STUVA: STUVA is an independent, non-profit research institution in Germany with the fields of activities include fundamental research and special analyses, focusing mainly on the areas of underground construction and railway and road transport.

1. RMRC is accredited according to ISO/IEC 17025 by National Accreditation Center of Iran (NACI)

Tunnel Segment Gaskets

ASIG



Test Certificates

RMRC
RAZI METALLURGICAL RESEARCH CENTER
INDUSTRIAL MATERIALS LABORATORY

Address: No. 8, Ehsan St., Industrial Area, P.O. Box 14155-435, Tehran, Iran
Tel: 021-88888888, Fax: 021-88888888, Email: info@rmrc.ir, Website: www.rmrc.ir

TEST CERTIFICATE

Client: Abrazsazan Group
Sample Name: Railway wheel-rail contact gaskets
Order No.: 1048
Date Reported: 10 May 2018

Test Results and Actual Effect

Property	Value	Unit	Standard
Hardness (HRC)	58	HRC	58-62
Impact (J)	10	J	10-15
Wear (mm³)	0.5	mm³	0.5-1.0
Corrosion (mm)	0.2	mm	0.2-0.5

Checked: [Signature] Date: 10 May 2018

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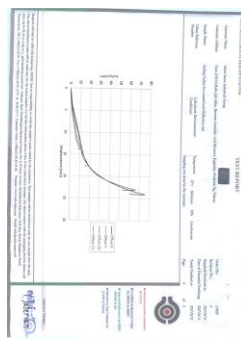
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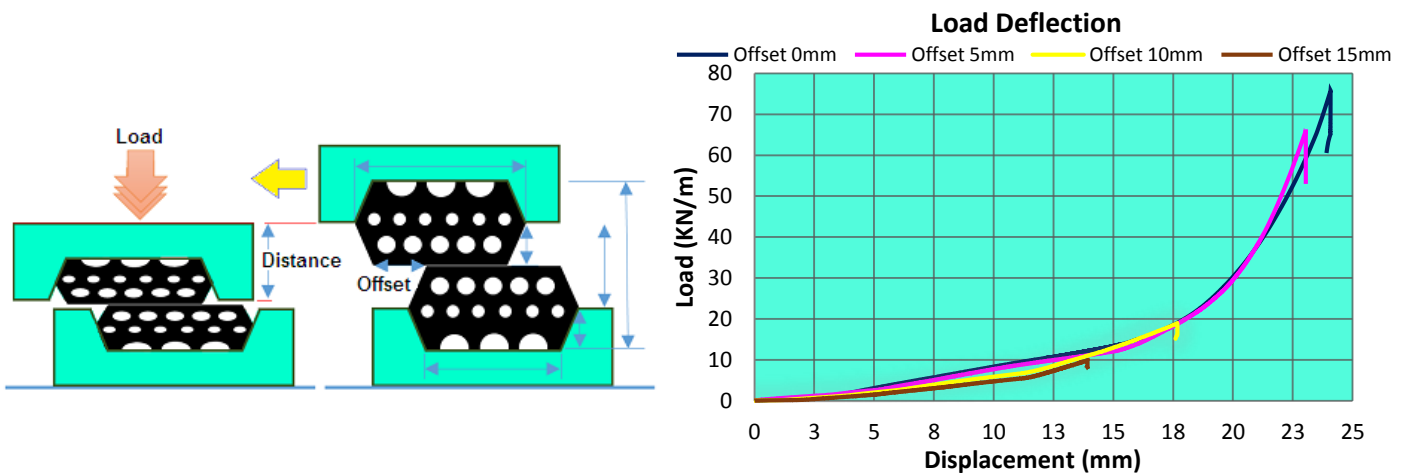
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Load Deflection Test

The load deflection (Force-Displacement) test has been conducted according to procedure of STUVA (2005) on four different offsets.

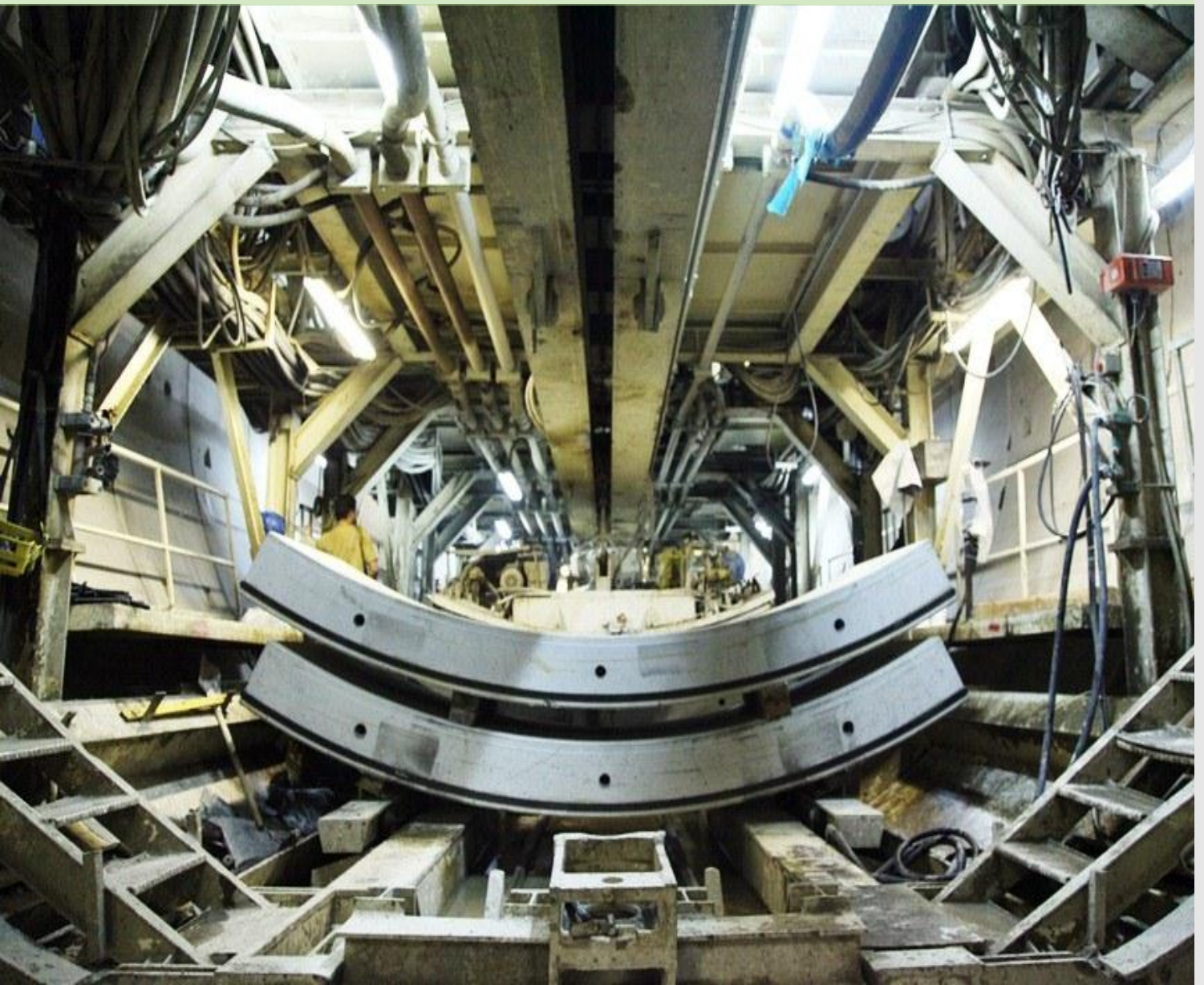




Profiles

ASIG offers various elastomeric gaskets which are compatible with many tunnel concrete segments and will be fixed in place firmly. Additionally, further profiles can be designed based on grooves that are required.

The profiles' corner joints are being connected together strongly with a cold jointing method.



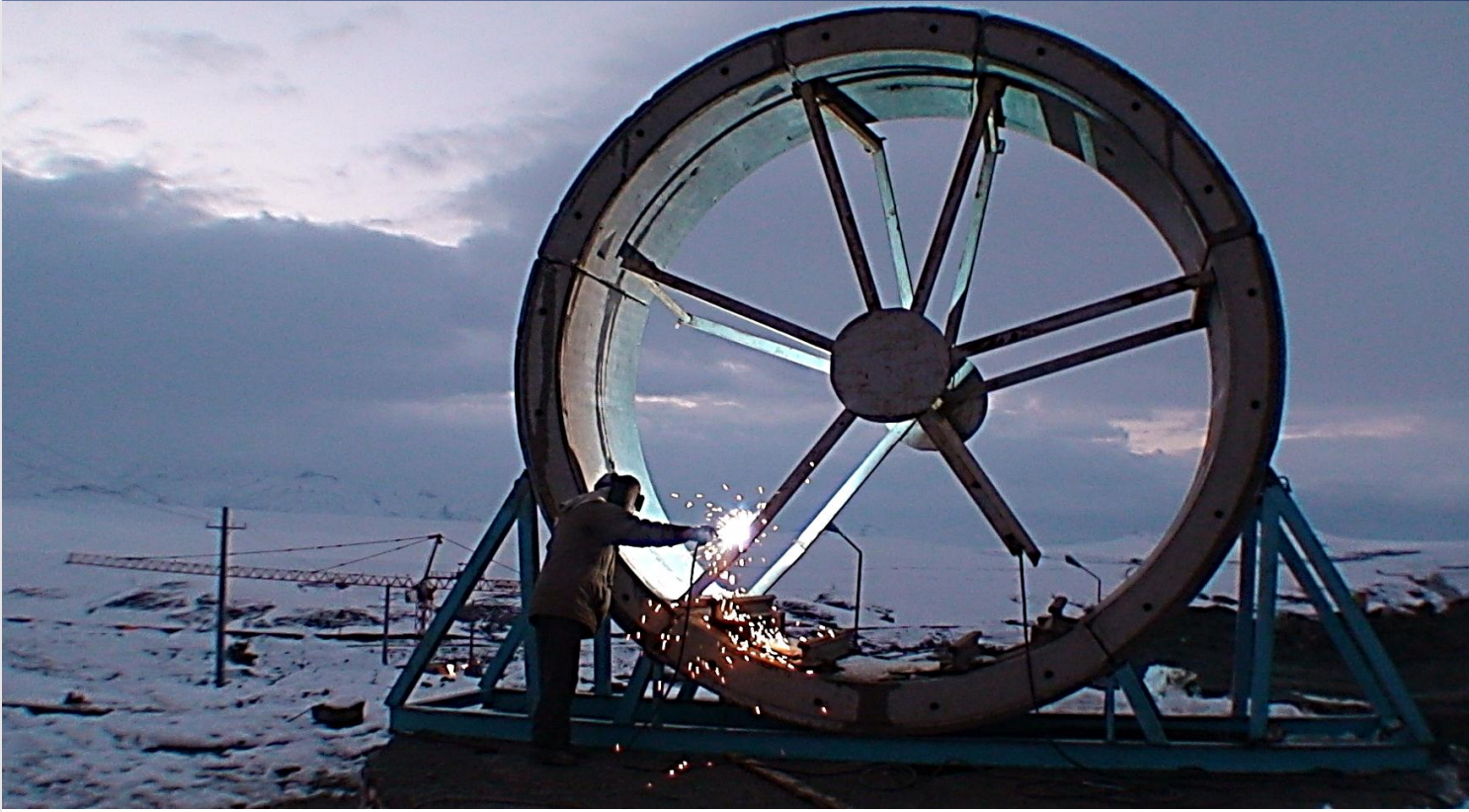
Adhesive

ASIG can offer an appropriate and adoptable adhesive to customers for which the Qualitative Analysis have conducted according to ASTM 1252-02 (ISO/IEC-17025).



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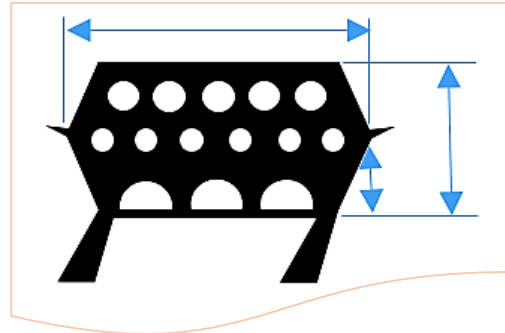
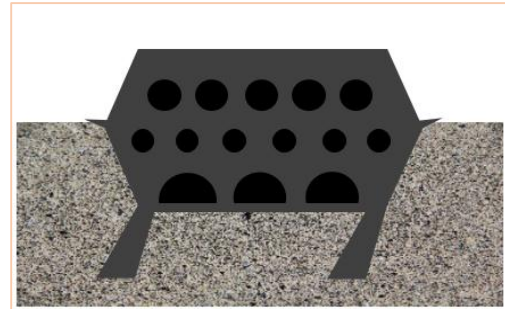
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Cast-in Gaskets

Tunnel segment gaskets can be anchored into the concrete during the tunnel segment production process. Cast-in gaskets have some advantages relative to traditional glued-into-groove gaskets such as clean and easy installation, lack of need to adhesive, and reduction in costs.

ASIG is capable to manufacture both glued-into-groove and cast-in gaskets based on requests.





Hydrophilic Gaskets

ASIG is capable to manufacture hydrophilic gaskets. Hydrophilic sealing inserts can be used in both glued-into-groove and cast-in gaskets in order to prevent water penetration into tunnel.

In contacting with water, the hydrophilic gaskets will swell immediately, therefore if there is a gap between the gaskets, will be closed.



References

ASIG tunnel segment gaskets have been used in many massive projects including subway and water transferring tunnels. Some of these projects are:

- The Line 3 Of Tehran Metro.
- The Line 7 Of Tehran Metro.
- 30-kilometer water transferring tunnel from Karaj to Tehran.
- Drinking water transferring tunnel to Qom city.
- Some other freshwater transferring tunnels.



Tunnel Segment Gaskets



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