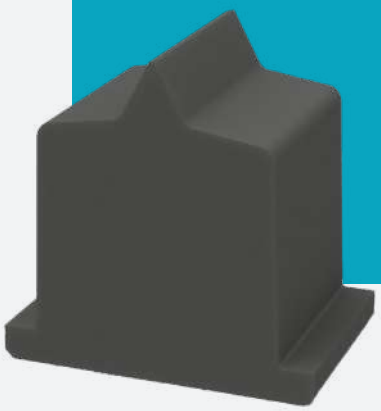
Gina Gasket

THE OPTIMAL SOLUTION FOR YOUR COMPLEX INFRASTRUCTURE NEEDS

Trelleborg is a global leader in designing and manufacturing Gina gaskets, serving customers worldwide powered by a dedicated team of specialists. Historically, Trelleborg's involvement in seal development and refinement for immersed traffic and water protection systems dates back to the early 1960s.

The Gina gasket is used between structures to prevent water ingress by hydrostatic pressure. When combined with the Omega seal, it not only provides sealing, but also absorbs movements due to soil settlement, creep of concrete, temperature effects and seismic movements as necessary.

- **Over 60 years of proven success**
- **Designed to order**
- **Third party verified**
- **Easy to install**



Gina Gasket: A reliable choice for diverse sealing applications

At Trelleborg, we take exceptional care to ensure that our Gina gaskets are safe and reliable for a wide range of applications. Our approach involves using the latest insights and technologies, including FEM analysis, to customize each seal to meet the distinctive requirements of every customer. It is important to us that each seal we design and manufacture functions efficiently in the conditions specific to the application. We're committed to creating solutions that are reliable and failsafe.

There are several factors to consider when designing a Gina profile:

- Water depth (hydrostatic pressure)
- Tidal variations
- Specific weight of water
- All movement and gap variations
- Specific conditions for installation
- Cross section size of steel mounting frames

DESIGN SPECIFICATION

The reliability and durability of a Gina gasket can be verified by analyzing its force compression curves under varying water pressure and safety levels.

Throughout our design process, we consider every specification to ensure that the final Gina gasket produced meets its expectations. Here are some of the aspects we consider during this process:

- Transfer of the hydrostatic loads at high water level within the maximum compression capacity of the Gina profile;
- Sealing at all water levels for all surfaces, including the effect of gap variations due to variation in smoothness/flatness of the mating faces, rotation of constructions, creep and shrinkage of the concrete material and temperature effects;
- Calculation of the restoring moments to re-align misalignment;
- Calculation of the proper functioning of the Gina gasket after re-alignment with respect to prevention of leakage at the gap opening side and prevention of overload at the gap closing side;
- Above mentioned sealing properties should incorporate the effect of relaxation on the rubber material of the seal over the project life time period;
- The Gina flange construction should be able to withstand additional loads without dislocation, due to shear of the compressed Gina gasket in case of differential settlement.

SAFETY AGAINST LEAKAGE

Our extensive research and practical experience allow us to design the Gina profile in a way that exerts more force on the connecting surfaces than the water pressure outside, ensuring its efficacy throughout its lifespan.

DURABILITY

Through material testing, we can ensure that the durability of Trelleborg's rubber seals far exceeds the application's expected lifespan. This ensures that our products continue to perform optimally well beyond the anticipated lifetime.

QUALITY ASSURANCE AND CONTROL

Trelleborg meets the following certifications:

- ISO 9001:2015 Quality management system
- ISO 14001:2015 Environmental management systems
- ISO 4501:2018 Occupational Health and Safety Management System

REFERENCES

The supplier should verify and demonstrate their capability to design and manufacture the required type of Gina seals by references for comparable projects.

Specialized manufacturing

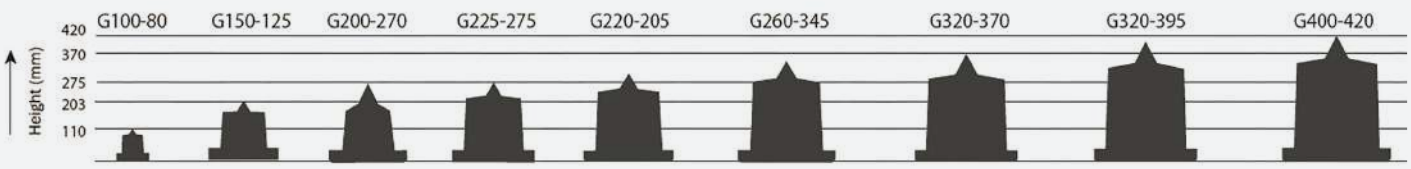
Trelleborg has continuously pushed the boundaries, introducing new types of Gina Gaskets over the years. The current models are the most technically advanced seals on offer, and they have all been tried and tested in a range of working environments.

The gaskets are vulcanized in straight lengths to a maximum of 8 m. Corner pieces are vulcanized separately to the required radius and/or angle. Each type of Gina gasket has a standard bending radius.

Radii other than the standard radii are possible, however they may not be cost effective. The total gasket is constructed from selected straight and curved elements through vulcanizing.

In addition to these standard options, Trelleborg is well-equipped to develop unique solutions customized to meet specific requirements. The selected rubber compound is normally a blend of NR (natural rubber). Dependent on project specifications, there are also possibilities for SBR (styrene butadiene rubber). The blend combines excellent mechanical properties with low water absorption and good resistance against chemical and bacteriological attack.

The selected rubber should match the required lifetime of the project. The low values for relaxation, i.e. decrease in reaction force at constant deformation, of our compound, provides a desirable long-term behavior of the sealing system.



Storage, transport, installation & aftercare

Installing Gina gaskets correctly is essential if you want to get the most out of them and keep them working at their best. With a meticulous installation process, the performance of your product can be optimized and protected.

Trelleborg adheres to systematic, safe and regulated approaches to storage and transportation to minimize risks such as ozone cracking during storage, as well as damage during transport and unpacking.

Gina gaskets are typically lifted into place using a specially constructed hoisting beam. The gasket is hung from the hoisting beam by a large number of nylon slings. It may be necessary to use extra protection caps to protect the Gina profile's relatively soft nose section.

The hoisting operation should be executed carefully to prevent damage and overloading of the seal due to its own weight. Trelleborg can provide detailed instructions, procedures and guidelines to guarantee an accurate installation. Upon request, a Trelleborg specialist can supervise the installation as well.

Trelleborg offers a range of on-site support services - from installation to repair. This enables us to minimize downtime and ensure smooth operation throughout the project.

STORAGE

The image on the right shows the storage of a Gina Gasket. Our delivery includes nose protection and slings.

GET IN TOUCH

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LEARN MORE ABOUT GINA GASKETS