SILOS IN MODULAR CONSTRUCTION
Lower costs – maximum flexibility
INTELLIGENT DESIGN
Zeppelin Bolt-Tec silos

Our intelligent design ensures your technological lead: from now on, silo sections no longer need welding – they can be bolted on site. This innovative concept has been developed in cooperation with several research institutes. The concept: the different silo segments are transported in containers and then bolted to each other on site. No specialized assembly staff is required as the work can be carried out quickly and at low cost by your own staff.

Let’s add it all up:
Practical modular construction
■ Low freight charges
■ Easy and quick assembly
■ Low assembly costs
■ Assembly also possible in the production hall
■ Subsequent increase of the silo capacity
■ Planning reliability
■ Flexible location
■ Internal special seals ensure very high leak tightness
■ Weathering resistant
■ Maximum profitability with highest Zeppelin quality

Zeppelin Bolt-Tec silos
innovative & quick

Thanks to the innovative technology for joining and assembling silo sections, long-haul freight transport - which represent a substantial share of the total costs - can be reduced significantly. The use of standard containers rather than wide load trucks allows an exact calculation of the transport freight charges and the assembly costs whatever the location of your plant. This ensures you planning reliability right from the project stage. Various methods of payment and financing are available (operating or capital lease, etc.).

With the new Bolt-Tec silos, high freight charges, expensive assembly operations and damage to silos during transport are things of the past. The silos can „grow“ to meet your changing requirements: should you ever require larger storage capacities in the future your silo can be quickly retrofitted without difficulty. Furthermore, Bolt-Tec silos can be easily dismantled and reinstalled at another location.

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COST ADVANTAGE AND TIME SAVING
The Zeppelin Panel-Tec silos

Zeppelin, the world market leader, also excels in the economic manufacturing of silos larger than 500 m³. The new Panel-Tec design ensures distinct advantages – lower assembly times with the same verifiable Zeppelin quality thanks to the innovative flange design and assembly technologies. The concept: single silo sections are prefabricated in our plant to the maximum possible extent and provided with flanges. These segments are then transported to the assembly site in containers and assembled on site either hanging from the crane or in a horizontal position. Then the silo segments are automatically welded from the inside. This assembly method is much faster than any conventional procedure and works independent of climatic conditions.

Verified welding quality ensures cost advantages
Thanks to our innovative flange connection design, the welds can be inspected and approved at the flanges. Your advantage: with the documented results of non-destructive welding tests (e.g. ultrasonics), the joint efficiency factor can be increased to allow a better use of the silo wall thicknesses. Furthermore, the flange connections used as assembly aids improve the silo stability - to prevent buckling - and allow optimization of the wall thicknesses.

From roof to cone full of smart ideas
The experts at Zeppelin have thought about everything regarding the new Panel-Tec design. The new cone design allows a fast and precise orientation and alignment of the cone segments – naturally without any edges or protrusions on the silo inside surface. No need to grind the welding seams to ensure the optimum bulk-material flow. As for the silo roof, you can choose between 3 options available. All process engineering equipment, such as the market leading Zeppelin blending or gas inlet and distribution devices, can be integrated into the Panel-Tec design.

<table>
<thead>
<tr>
<th>Silo diameter d [mm]</th>
<th>Roof design</th>
<th>Cylindrical height h [mm]</th>
<th>Skirt height [mm]</th>
<th>Total height [m]</th>
<th>Volume [m³]</th>
<th>Aspect ratio [d/h]</th>
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Standard cone roof with 15°
Stopped cone roof 35°/15°
Cone roof with integrated access platform

Subject to change
QUALITY HAS MANY DIFFERENT FACETS

In order to be able to produce long-term quality, many factors have to be right. Zeppelin applies the highest standards in all areas to achieve this goal. State-of-the-art production processes ensure top-class quality.

One weld joint is not like the other

Only the most skilled employees do welding work here. That is why only TÜV-certified welders are employed at Zeppelin. Made in Germany always pays off. Of course, we have all the important and relevant certifications for welding and processing technology.

Know-how

Zeppelin brings together plenty of know-how. We have one of the largest bulk material libraries in the world. At our globally-leading technology center, tests on a scale of 1:1 can be performed.

Innovation edge

Zeppelin owns many patents from which our customers benefit. Special machines for circular form bending of cones, simultaneous two-sided welding, the new modular system: this is how quality is achieved in a cost-efficient way.

Service – service – service

As a system supplier, we deliver turn-key plants for the plastics processing and plastics producing industry. You obtain everything from a single source, from consulting, engineering and production to commissioning. And it doesn’t stop there. Modification, repair work, change of location, spare parts service, etc. You can always count on us.

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Trust is good – certifications are better! Zeppelin disposes of all certificates, licenses and accreditations.

High degree of automation: Special production plants for silos in compact design ensure maximum, consistent quality and short delivery times.
Global presence

- Australia
- Belgium
- Brazil
- China
- France
- Germany
- India
- Italy
- Korea
- Russia
- Saudi Arabia
- Singapore
- United Kingdom
- USA