

## **Project information**

**Insulation sugar silo, Rain am Lech**

**Principal: Südzucker AG, Mannheim**

**Client: Gronemeyer & Banck, Steinhagen**

### **Südzucker AG:**

Worldwide, 17,700 people are employed at Südzucker. They generate an approx. 6.2 bn EUR annual turnover with sugar and other nutritional products. The sugar production alone at the nine production sites in Germany is approx. 4.2 m tons, thereby rendering Südzucker market leader in the sugar sector in Europe. At the site in Rain am Lech, approx. 250 employees produce approx. 200,000 tons of products per year.

### **Information on Gronemeyer & Banck:**

The medium-sized container producer's core expertise comprises the planning and construction of tank- and silo facilities. Nearly 100 employees plan and construct tank- and silo works in Steinhagen/Westfalen, but also pressure vessels, instruments, tube towers for wind power systems and much more.

### **The contract:**

Gronemeyer & Banck took on the task for Südzucker to dismantle a silo roof in Regensburg and newly set it up at the site Rain am Lech together with a newly constructed cylindrical part.

Bohle Isoliertechnik offered a conclusive plan for carrying out insulation on approx. 5,000 m<sup>2</sup> cylindrical silo- and approx. 2,500 m<sup>2</sup> spherical roof area. The "crowning finish" is the "dome", the central column with approx. 4 m diameter and 6 m height centrally positioned on the silo.

### **Special technical features:**

The silo has a height of approx. 50.00 m (cylindrical height approx. 38.00 m plus 6.00 m head vault and approx. 6.00 m dome) on a base with approx. 48.00 m diameter.

With 30°C product temperature, the demand on the insulation seems uncritical; however, during construction and performance, great care had to be taken to avoid heat bridges:

Under all operational conditions, product adhesion to colder silo parts had to be securely prevented. In addition, the construction had to be suitable for balancing out unevenness of more than 10 cm in the silo roof so as to achieve the desired optical impression.

The procedure:

“Time is money”: On 15.07. the contract was awarded.

But it was also clear: sugar from sugar beets is a seasonal product.

As of 02.11. the product must be stored in the silo.

From the technical planning with static design, to material disposition and planning of pre-production capacities in the central shop in Cologne, to the planning of the assembly procedure and personnel – the project management prepared a comprehensive plan and realised this in a short time:

16.08.	Set up of construction site
17.08. - 10.09.	4 fitters assemble UK parts on the silo roof and -shell.
10.09. - 25.10.	8 fitters; assembly of insulation and trapezoidal sheet metal on the shell.
28.09. - 01.10.	Insulation work on the dome
16.10. - 12.11.	Up to 12 fitters; assembly of insulation and sheets on the roof, assembly of passing to eave.

With the interim acceptance of 02.11. the “hardest part” is done. Personnel are reduced to 4 fitters, connecting- and base work are carried out with structure dismantling. This is completed on 28.11.

29.11. Fault-free acceptance by the client, clearing of construction site.

The extra part:

..and in between there was still time for additional insulation work in the sugar loading, which was vital for taking up production.

Conclusion:

An all-round successful contract:

Those involved from Bohle and all contact partners on the side of the client and operator worked together in a competent manner, always focused on deadlines, technical aspects and results. Material flow and adjustment work were carried out on time and in accordance with technical specifications. Deviations were recognised early and corrected in team work. Even the weather gods cooperated and provided the desired dryness.

Project management, site management, shop, purchasing, fitters and all other involved have done

**“a good job”.**

Cologne, December 2011

