System Chemie

Reference project:
Loading station, Goldschmidt GmbH, Essen

**Goldschmidt GmbH, Degussa AG Essen Site.
A safety conscious company that relies on the RS brand
for safety in loading technology.**

Goldschmidt chemical logistics

Upholding all safety rules at Si has led to more than 10 years of operation without any notifiable accidents. Here the old balance solution.

At the Degussa subsidiary Goldschmidt GmbH in Essen, in part sensitive basis chemicals are produced. That is no problem – the safety standard is acknowledged as being very high, so one lives accordingly relaxed in the neighbouring residential areas. If one considers that very high requirements are placed on enclosed production processes, they are really high in the sensitive interface section between production and logistics, namely there where the chemicals leave the enclosed production process and are loaded into the railway tankers. That is exactly where the innovative system, a hose loading arm in association with a breakaway coupling from RS Roman Seliger developed specifically for this purpose, has even further increased the safety standard.

Satisfied with the new solution: Grad. eng. Ulf Thiele (left) and maintenance engineer Kai Engels.

In the frame of the international program "Responsible Care" from the chemical industry, Goldschmidt has not only obligated itself to taking responsible actions toward humans and the environment, but has also avowed continuous improvement of the plant and occupational safety. The practical implementation in the loading technology sector: For years, one has relied basically on fittings and safety engineering from "Brand RS". And that also in the Si factory loading station, where railway tankers from various chemical tanks are filled from above via a loading bridge.

"Shear point"

This is where the breakaway couplings from RS have long served as safeguards. For instance, if a tanker starts moving during shunting and the filling hose is still connected, the three breaking pins in the ABV breakaway coupling absorb the dangerous force. In such a case, they act as a "shear point" for a controlled separation. The product line is then safely separated and at the same time both separation points are safely closed. That protects the hose lines from damage or even from destruction and the operating staff and environment from undesired fluid leaks.

The long arm of occupational safety

But there was still one unsolved problem. The hose nozzle for filling the tanker initially hung on so-called balancers. That was less than optimal both from safety aspects and when considering the working conditions. During a mutual site inspection performed by the responsible employees from Goldschmidt, RS application technology and the technical wholesaler MSR, hose engineering was discussed as a possible solution to ease handling and increase safety even further. While doing so, the problem was not to be solved with the standard hose hinged arm, which only covered a horizontal pivot area and also not with balancers, which can be moved in the vertical direction. RS Chief of Development grad. eng. Birger Buhk and AW technician grad. eng. Michael Adam developed a customised model of the hose loading arm that experienced its debut in Essen. It combines all the benefits of the classical hose loading arm with the advantages of the balancer solution.

Accident-free history pre-programmed

Two of these hose loading arms were then integrated. They bear two chemical hoses each, one as a product line, one as a vapour recovery; both connected with one each ABV breakaway coupling with the pipelines from the storage tank. Programmed safety that will guarantee the impressive balance of accident-free days at Goldschmidt for a long time to come.

Safety in the system

Good reasons for safety first.

Clean and correct: SGA can practically be "moved with one finger" ...

... and be conducted precisely to the flange connection in the tanker.

Tanking up with ease

The → **RS hose hinged arm** bears the load of the heavy chemical hoses with the heavy flange coupling. That reduces the bodily stress on the employees to a minimum. Its mobility – in idle less than a half metre pushed together and swivelled up, extended seven meters long with a horizontal pivot angle of nearly 180° and a vertical pivot angle of about 120° - makes filling up the tanker an effortless and precise matter. And at the same time, the hose line is protected against tensile stress, torsion and mechanical loading of the hose cover, which significantly extends the maintenance cycles.

Decouple in emergencies

On the loading station in the Si operation tanker depot, the railway tankers are filled from above. At this interface between the factory and the logistics, → **type ABV breakaway couplings** make sure that shunting mistakes like "driving off over hastily" do not lead to catastrophes. At the defined tensile load – long before the hose tears – the **ABV** cuts the connection and safely closes the separation point.

www.rs-chemie.de

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RS – System Chemie:
The safe line for many applications

RS-Chemie-fittings

ABV breakaway couplings guarantee safety even under over-proportional tensile loads. Hazardous forces such as during shunting or drifting off are absorbed by the coupling. When the critical point is exceeded, the hose line is safety separated and simultaneously both ends of the separated line are safely closed.

TR dry couplings ensure safe coupling and separation of hose lines in hose stations and at the loading point during daily work. And that without any leaks! Coupling up and opening along with closing and decoupling are each done in one step – just as quick as filling up during a box stop in a Formula 1 race.

A whole series of stresses crop up at the loading point for the hose lines. Especially, the hazard that the hose kinks, the hose cover is damaged, torsion arises or the bending radius is exceeded. Loading systems like the RS SGA hose hinged arm optimise the safety and handling of the process. They prevent torsion and hose kinks and increase the service life.

Yes, we are interested in
RS-Chemie-fittings.
Please send us at no obligation:

- ◯ Detailed information material
- ◯ Please make an appointment with the responsible chemical specialist.

Last name, first name

Company

Street

ZIP, City

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Please
affix
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Armaturenfabrik GmbH
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Why we rely on RS

Grad. eng. Ulf Thiele,
Project systems engineering CS, Goldschmidt Co.:
"The high stresses that act on the hose lines during balancing times resulted in the hoses wearing out quickly. Since implementing the new RS concept, things have calmed down. This investment paid off quickly."

Kai Engels,
Maintenance eng. CS, Co. Goldschmidt:
"In MSR Schlauchtechnik and RS, we found partners with whom we could discuss our problems and implement our ideas. And who then developed precise solutions with which we were able to achieve genuine improvements during handling."

Frank Marquardt,
GF MSR Hose Engineering:
"As a dealer and prefabricator of hose lines, confronted with proving ourselves in reality practically week after week onsite, we rely on RS as the partner that combines the highest quality with just as high a degree of innovativeness and individual service."

What RS is doing for safety

Grad. eng. Birger Buhk,
RS Chief of Design/ Development:
"We don't just sell off excess inventory; rather, we develop what the customer needs. Individual, customised, prompt and focused on the highest technical quality and safety standards. We owe that to our customers, and not only from an engineering point of view. The task that we solved at Goldschmidt for example is the implementation of our goal of "optimal conveyance and controlling even problematic media with maximum safety for humans, the environment and material."

Grad. eng. Michael Adam,
RS Application technician:
"Together with our partner MSR-Schlauchtechnik, we were in permanent dialogue onsite with Goldschmidt. That is the only way to develop a solution that, in the final outcome, really benefits all those involved."

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A Strong Brand in Your System

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degussa.

Essen location/ Goldschmidt GmbH

Facts – figures – data

Goldschmidt GmbH in Essen, founded 1889, now a subsidiary of Degussa AG, is the largest producing industrial company in the city and provides jobs to about 1,400 employees. The location is the headquarters of the Care & Surface Specialties division. Here, surface-active special chemicals based on fat-chemical raw materials and modified silicone compounds are manufactured, which in turn are used as raw materials, process resources and additives in industrial and consumer goods. A production centre in Duisburg also belongs to the Essen location. The managing directors are Dr. Claus Rettig, Andreas Bonhoff and Manfred Recksik.

As part of Degussa, Goldschmidt GmbH belongs to a Group association with about 44,000 employees and sales of 11.8 bn. Euros. Degussa is the global leader in the special chemicals sector.

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