

## INNOVATIONS

### WASCOSA safe tank car®



The WASCOSA safe tank car® sets new standards in safety for the transportation of hazardous goods by rail. A first series of the WASCOSA safe tank car® is being used for the transportation of sulphur dioxide. With its various safety elements and the optimised brake platforms at both ends of the car it epitomises the hazardous substances tank car of the future. Together with customers, freight car and component manufacturers, experts for crash and simulation technology and not least the German Federal Railway Office, we have developed a completely new safety and labour protection package.

The customer invited tenders for a fully equipped chlorine car that should offer much more in the field of safety than other cars that had previously been available on the market. Together with long-standing partners, including experts for the development of safety components, a comprehensive safety concept was therefore drawn up for the hazardous substances tank car. A completely new rollover protection (patent pending) was developed, for example. A further safety element that has its origins in locomotive construction is the EST Suprabuffer G2. The strength and deformation behaviour of this buffer have been optimised on the basis of the latest findings to protect the WASCOSA safe tank car® with a reinforced undercarriage far beyond the level required by RID.

The car is also equipped with two mechanical derailing detectors to prevent any serious damage in the event of derailing. In addition the WASCOSA safe tank car® has four ride-up protection modules type AC04 from the firm of EST which prevent the buffers of one car riding up over the buffers of the neighbouring car in the event of an accident. This completely newly designed buffer ride-up protection for the first time meets the RID special regulation TE25 section a) which requires that not only should the bottom of the tank be protected against penetration by riding-up opposite buffers but also that riding up be prevented in the initial phases.

An optimised brake platform with a continuous, unrestricted passage width and additional handrails on the side ladders contributes to more safety at work. Whereas new constructions up to now only had a brake platform at one end of the car, the WASCOSA safe tank car® gives the operational personnel a safe chance to cross from one side to the next at both ends of the car.

Since safety elements are only sensible if it can be proven that they make things safer, WASCOSA has for the first time had arithmetical simulations performed of various load cases for the WASCOSA safe tank car® and all of its components in agreement with the approval authorities. Our partner was the firm of Makross in Munich who for years now have been carrying out successful simulation calculations for all famous automobile manufacturers.