

In the end, the ROSTA rubber suspension unit is only as good... ...as the rubber inserts mounted in it!

Or to put it another way: If the rubber quality is not very good, the rubber suspension unit will not be able to deliver the required performance and characteristics. The ROSTA quality depends basically on the quality of the rubber inserts that are mounted!

For many years, ROSTA AG has been supplied with high-quality rubber cords for its machine component production by two leading Swiss manufacturers. Thanks to the very close cooperation between ROSTA's physics laboratory and the development departments of the two suppliers, the excellent rubber quality has been maintained over decades. There has, however, always been one downside to this close and good cooperation with the two suppliers: **the very high supplier dependency!**

What could happen when one supplier would completely change his production or even out-source his rubber production to third parties? Not every manufacturer

can offer high quality **spring rubber**. In addition, the absolutely confidential protection of ROSTA's specific mixing formula and the total discretion towards third parties regarding the individual vulcanising procedure would no longer be guaranteed.

In the spring of 2007, the unique opportunity arose for ROSTA AG to purchase both the rubber mixing plant of the one long-term supplier and the extrusion and vulcanisation operation of the other. The two production branches were then merged together, creating the **COMPOUNDS AG** Company, which was affiliated to **POLYGENA AG**, the parent company of ROSTA, as an independent company. In the summer of 2010, COMPOUNDS AG moved into its new, spacious production and administration building in CH-8330 Pfäffikon. This is therefore the ideal opportunity for ROSTA AG to introduce you to its sister company in more detail in the **INFO 2/2010**.



The new 100 litre **kneading-mixer** of COMPOUNDS AG, on which the specific in-house and third-party mixtures are produced according to individual formulas. Depending on the intended use and the desired characteristics of the final product, the components of the mixture, such as polymers, fillers, vulcanisation systems, chemical components and soot* (*from closed, direct loading) are fed to the mixing chamber and are mixed together there.

A further 100 litre kneader that runs in parallel is currently being installed for the production of coloured rubber mixtures, with the aim of separating the production of coloured and black rubber mixtures (reduction of the cleaning effort and relieving the workload on the main mixer, which is currently running in three-shift operation).



Production and administration building of COMPOUNDS AG in CH-8330 Pfäffikon ZH, in which a further POLYGENA company, NOZAG AG (a manufacturer of lifting spindles and standardised gear wheels) also has its head office.





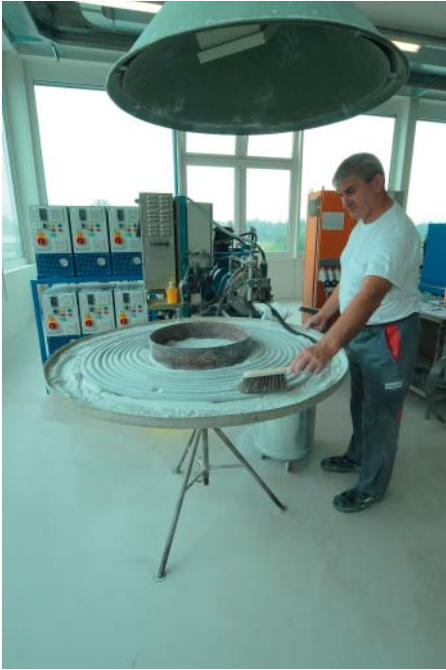
Rolling mill for the further homogenisation of the mix and for the forming of the so-called "skins", which make the further transportation and commissioning possible. The "skin" then runs through an air cooling system (known as the "Batch-Off"), on which the material is cooled down to room temperature. Only then can the "skins" be stacked on pallets without the individual layers fusing together.

The mixing and rubber production at COMPOUNDS AG is subject to a range of testing procedures. An important step in the development of the mixture takes place in the so-called "Technikum", a small but complete production line with mixers, extruders and vulcanizing presses. Trial mixtures and vulcanised prototypes are produced here in small quantities, and are then tested for their suitability for production. The samples being removed from the vulcanizing press in the picture will be checked in the laboratory for tear resistance, yield stress and hardness.



The quality of the running production is monitored in the **laboratory** that is directly connected to the production area. The data, curves and characteristics are documented, and are allocated to the respective production batch.





The "raw skins" are compressed into the typical ROSTA round rubber cords using a shaping die at a high temperature and under high pressure on one of the total of five **extruders**. These endless cords are brought to the cooling and stabilisation phase rolled onto profiled plates, and are protected against bonding to each other by the use of talcum powder.



For the conversion from the plastic phase to the elastic condition, and to guarantee a thoroughly homogeneous characteristic, the ROSTA cords are vulcanised using steam and high pressure in various **autoclaves** up to 18-metres long. The extruded round cords are then laid in half-shell moulds with the corresponding radius. Finally, the mould plates move into the vulcanising oven (autoclave) on rails. This vulcanising method is known as discontinuous vulcanisation and has the great advantage over the continuous vulcanisation in the hot salt-brine that the vulcanisation, or the stabilisation of the molecular network in the rubber material, respectively, is more intensive, longer-lasting and more homogeneous.



In order to ensure a comprehensive **traceability** for the ROSTA elements that are finally produced from the rubber bodies, a laser printer located at the outlet of the extruder continuously applies a manufacturing code to all the round cords, which gives information regarding the mixing batch, and the vulcanisation and production date.

Fully-assembled pallet frames ready for shipping with ROSTA rubber cords – ready for storage in CH-5502 Hunzenschwil. In almost the same way as a good red wine, the arranged and talc-free, washed rubber round cords are now “matured” for some time in darkness in the cool cellar. After the mechanical “torture” in the mixers, extruder and autoclave, the natural product rubber will now be able to “rest” and stabilise for some months – until the cords face the new stress of the ROSTA-specific vibration jointing.



Represented by:



ROSTY'S COMMENTS:

Publisher:
ROSTA AG, Hauptstrasse 58
CH-5502 Hunzenschwil
Phone +41 062 897 24 21
Telefax +41 062 897 15 10
E-Mail info@rosta.ch
Internet www.rosta.ch

Copyright by ROSTA AG
Edition: d/f/e/i 10 000 Ex.
No 2/2010