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STRUKTOL News
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Information on processing additives and release agents for the rubber industry

Struktol HT 600 (DL): New Reactive Processing Additives for Peroxide crosslinked polymers

Organo-silicone based processing additives like Struktol WS 180 or Struktol WS 280 offer significant benefits when processing special elastomers. The most notable advantages are:

- **Better flow due to viscosity reduction**
- **Improved (mold) release from metal parts**
- **Suited for low-friction compounding**
- **Increased heat stability (after ageing)**

However, due to poor miscibility with most rubber types, blooming, an unwanted migration to the surface, might take place. In order to overcome this effect, Schill+Seilacher "Struktol" GmbH has recently added two new multi-functional products, Struktol HT 600 and Struktol HT 600 DL, to its rubber additives product portfolio. They are both organo-silicone based and offer the above mentioned benefits in rubber compounding while eliminating blooming.

The new materials react with the rubber backbone in a peroxide cure and remain fixed in the rubber network. Therefore Struktol HT 600 (DL) cannot migrate to the surface independently regardless of the concentration used. In addition, due to its surface activity the material still is able to enhance the release properties of a rubber compound, e.g. those used in injection molding.

In addition to the already mentioned features, the reaction with the polymer backbone allows Struktol HT 600 (DL) to act as a co-agent.

Struktol HT 600 (DL) might therefore be a replacement for conventional co-agent types like TRIM, TAC or TAIC.

- **No blooming due to reactive groups**
- **Improved physical properties**
- **Possible replacement of co-agents**

In short, the new material combines the processing benefits of functionalized organo-silicones while overcoming the primary drawback of this material class, unwanted blooming. Furthermore, Struktol HT 600 (DL) is able to replace some standard co-agents.

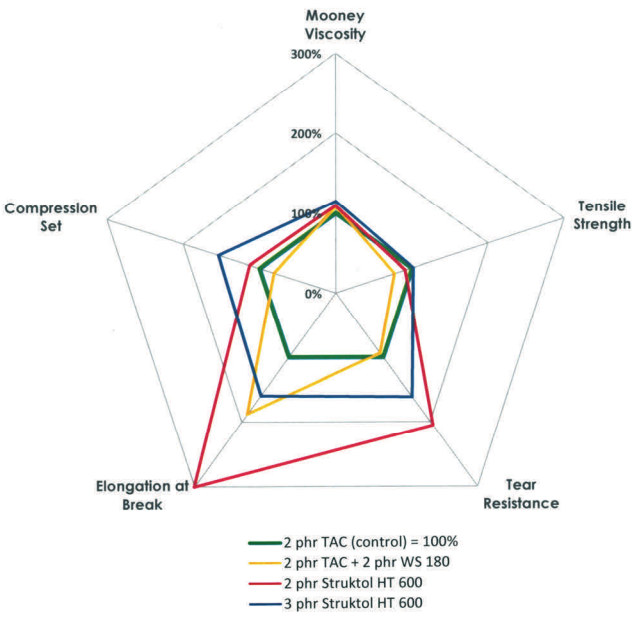
Due to a unique chemical structure, Struktol HT 600 (DL) can advantageously shift some physical properties. If compliance with certain standards is required, for example in terms of elongation or tear resistance at similar tensile strength levels, a real benefit is achievable.
The net diagram (see right-hand side) displays the properties of an EVM compound (with 60% Vinyl acetate content) containing a high amount of ATH (220 phr). Troubling was the low elongation value at comparable Tensile Strength levels when the traditional co-agent TAC was used. The control compound, the green line, is set to 100%. A percentage greater than 100% shows improvement. The real elongation at break value of the EVM compound was below 100%, which is undesirable. The use of Struktol HT 600 was able to resolve this deficiency, increasing the elongation at break by a factor of nearly 3 (blue and red lines). Surprisingly, the tensile strength were comparable to the control, and the compression set and tear-resistance levels were also improved with Struktol HT 600.

Improved processing in combination with higher elongation values also are reached by using a conventional processing additive next to 2 phr TAC. However, you have to add 4 phr instead of 2 phr and there is a negative impact on tensile strength and compression set (yellow line).

It is clear that the use of this new material class makes it possible to combine a conventional processing additive and conventional co-agent into one product. In initial trials, a stepwise replacement is recommended. Struktol HT 600 (DL) was developed for any peroxide curable polymer type. We recommend the use in EPDM, HNBR, EVM, CPE, FKM or Silicone rubber formulations.

If you need more detailed information on Struktol HT 600 (DL) please do not hesitate to contact us.

info@struktol.de



Food contact and Potable Water contact compliance: Latest additions to BfR recommendations and Elastomer guideline

Schill+Seilacher "Struktol" GmbH offers an expanded selection of products that comply with the requirements for food contact issues and potable water applications. Due to the revision of the *Elastomer guideline* (former KTW) and the BfR XXI recommendations for food contact in Germany, we accelerated our efforts to benefit from existing substance information which have been generated during the REACH registration process.
After discussions with the responsible authorities the revision process enabled us to include some additonal products that were not previously listed.

The most popular example is **Struktol WB 222 / WB 217** which are now suited for the both uses according to BfR XXI and the *Elastomer guideline*. Amongst others, also **Struktol WS 280** now complies with the requirements of the *Elastomer guideline* which is good news for customers specializing in FKM-compounding. If you would like to receive further information on the use of Struktol additives in Food Contact or Potable Water applications, do not hesitate to contact us .

info@struktol.de

Struktol VP 6120: New biodegradable Mandrel Release Agents for VMQ and FKM rubber hoses

Struktol VP 6120 is especially formulated for shaped VMQ, FKM and acrylic rubber hoses, and has a degree of biological elimination, of 70 percent within 7 days. Extensive lab and field tests have shown Struktol VP 6120 to be a very efficient mandrel release agent, outperforming other products on the market. Struktol VP 6120 exhibits excellent lubricity, is inert to the rubber, and is easily rinsed away with water after application.

In case you need need more detailed information on Struktol VP 6120 or any other (Mandrel) Release agent please contact our product manager for Release Agents, Mr. René Mille. He will care for you.

RMille@struktol.de

+49 (0)40 73362-351

INSIDE - struktol

Julia Jens
AREA SALES MANAGER

Age: 30

Phone: +49 (0) 40 73362-347
Fax: +49 (0) 40 73362-194
Mail: jjens@struktol.de

As of 01.06.2014, Julia Jens took over responsibilities in Germany and selected European countries as new Area Sales manager of our Rubber additives and Release Agents business line. She has a special focus on our non-tire and compounder business. Mrs. Jens joined our company in 2007 and started her career in our sales department in 2009. "Working closely with our customers as a part of the Struktol sales team I achieved valuable knowledge of the markets and continuously expanded my commercial experience. The internationality and the uniqueness of our customers as well as the capabilities of Schill + Seilacher "Struktol" GmbH are exciting for me."

Calendar of Events 2014

October 14-16th 2014: **International Rubber Expo, 186th Technical Meeting** / Nashville TN, USA
http://www.rubber.org/2014-international-elastomer-conference
Visit us at our booth no. 604

November 27-30th 2014 **Rubber Instanbul 2014** / Istanbul, Turkey http://www.rubberistanbul.com
*Visit us at the booth of our Turkish distribution partner ÖZŞAHİN no. **718-719 in Hall 7***

December 3-5th 2014 **RubberTech China 2014** / Shanghai, China http://www.rubbertech.com.cn
Visit us at our booth no. 2A348

Schill+Seilacher

Schill+Seilacher "Struktol" GmbH Moorfleeter Strasse 28 22113 Hamburg Germany
Phone: +49 (0) 40 73362-0 Fax: +49 (0) 40 73362-194
Homepage: www.struktol.de email: info@struktol.de

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