

ferrite $\text{SrFe}_{12}\text{O}_{19}$, type FD 8/24 were used in order to prepare elastomeric magnetic composites. The applied ferrites differed in particle size distribution and other physical characteristics. The results of measurements showed, that the presence of ferrites in rubber compounds leads to acceleration of sulfur curing process. The BR compounds filled with FD0 ferrite required the shortest time essential for their vulcanization. The physical-mechanical properties, the tensile strength at break, the elongation at break and the hardness, exhibit non-linear increasing tendency with increasing of ferrites content in vulcanizates. The best values of the tensile strength at break seem to be achieved by using the ferrite FD0, and the highest values of the elongation at break in case of vulcanizates filled with FD2 ferrite were observed. The values of modules could not be measured because the vulcanizates were ruptured at deformation less than 100%. The magnetic characteristics show significant increasing tendency with increase in the ferrites loading. In the network structure of vulcanizates chemical cross-links dominate over physical ones. Their structure depends slightly on the magnetic fillers loading. The best values of evaluated cross-link densities seem to be achieved by using the ferrite modification FD0. The differences among the properties of prepared elastomeric composites caused by using the applied ferrites modifications seem not to be very significant. On the basis of the obtained results one can see that the interaction between the polymer matrix and the ferrite particles is the highest in case of composites filled with FD1 filler. The results achieved by the study point out the possibilities of preparation

of elastomeric magnetic composites by the processes generally used in rubber technologies. The prepared materials have suitable magnetic and elastic properties.

Acknowledgements

This work was supported by grant agency VEGA, Project No. 1/0575/09.

REFERENCES

1. Farshad, M., Benine, A.: *Magnetoactive elastomer composites*, Journal Polymer Testing, 23(2004), 347-353.
2. Paul, K. B.: *Magnetic and structural properties of Ba M-type ferrite-composite powders*, Physica B, 388(2007), 337-343.
3. Kruželák, J. et al.: *Elastomeric materials with magnetic fillers for intelligent tyres construction*, Kautschuk Gummi Kunststoffe, 63(2010), 20-24.
4. Goldman, A.: *Modern Ferrite Technology, Ferrite Technology Worldwide*, Van Nostrand Reinhold, New York, 1990.
5. Malini, K. A. et al.: *Magnetic and processability studies on rubber ferrite composites based on natural rubber and mixed ferrite*, Journal of Material Science, 36(2001), 5551-5557.
6. Gutfleish, O.: *Encyclopedia of Materials: Science and Technology*, Elsevier Science Ltd, 2001.
7. Dinzbarg, B.N.: *Determination of network concentration in filled hydrogenated nitrile rubber of different saturation*, Kautschuk Gummi Kunststoffe, 52(1999), 413-419.

CONTACT

Jan Kruželák
Slovak University of Technology
Faculty of Chemical and Food Technology,
Institute of Polymer Materials
Department of Plastics and Rubber
Radlinského 9
SL-812 37 Bratislava, Slovakia
E-mail: jan.kruzelak@stuba.sk

Ekstrudiranje troslojnoga crijevnog filma u Muraplastu

U *Muraplastu* je puštena u pogon linija za ekstrudiranje troslojnoga crijevnog PE-LD filma. Linija njemačkog proizvođača *Windmüller & Hölscher* kapaciteta je proizvodnje do 300 kg/h.



Novi troslojni ekstruder pušten u rad u *Muraplastu*

Linija je opremljena najmodernijom opremom poput automatskog sustava hlađenja glave s pomičnim mjerenjem debljine i unutrašnjeg sustava hlađenja crijeva, gravimetrijskim doziranje granulata, beskontaktnim sustavom namatanja svitaka itd. Ponajprije je namijenjena proizvodnji FFS (e. *Form-Fill-Seal*) crijevnog filma za automatsko pakiranje programa teških vreća poput pakiranja granulata, zemlje i sličnih zrnatih i praškastih proizvoda. Specifičnost linije su posebno hlađeni valjci za FFS film, čime se postižu optimalna mehanička svojstva potrebna za uspješnu uporabu proizvoda.

Davor UJLAKI

Promjene u vodstvu DIOKI grupe

Na sjednici *Nadzornoga odbora* tvrtke *DIOKI grupa* održanoj 7. ožujka 2011. imenovana je nova predsjednica *Uprave* Vidonija Miletić Plukavec, od 17. veljače 2011. i članica *Uprave* te komercijalna direktorica tvrtke *DIOKI d.d.* Na tom je mjestu naslijedila Vatroslava Sablića

koji je sporazumno prestao obnašati dotadašnju dužnost.

www.zse.hr

Rast tržišta sintetskoga kaučuka

Kako je potražnja za sintetskim kaučukom povezana sa stanjem na automobilskom tržištu, i porast te potražnje ovisi o općem oporavku gospodarstva. Smanjena potražnja za automobilima, ali i usporena zamjena islužanih automobilskih pneumatika novima, dovela je do smanjenja potražnje za ovim materijalom. Prvi znakovi oporavka dolaze s kineskoga i indijskoga tržišta, koja prije svega još zadovoljavaju rastuću domaću potražnju i za pneumaticima i za novim automobilima. Očekuje se da će se pozitivni trendovi proširiti na Rusiju, Srednju i Južnu Ameriku te srednjoeuropske i istočnoeuropske zemlje. Stoga se očekuje da će potražnja za sintetskim kaučukom do 2015. narasti na 13,4 milijuna tona.

RFP 6(2011)1