



Dipl.-Ing. Dr. mont. Bernd Schrittester

Schrittester, Bernd, Dr.		
SCIOFLEX GmbH		
Operring 1/R/748, 1010 Wien		
Education and employment		
From (year)	to (year)	
1999	2004	HTBLA Eisenstadt, Focus: Material Science
2005	2014	Montanuniversitaet Leoben, Polymer Engineering and Science, PhD study, MSc. Study, BSc. Study
2010	2014	Researcher at the Polymer Competence Center Leoben GmbH
2014	2017	Post-doctoral researcher and multi project manager at Polymer Competence Center Leoben GmbH
2017	2021	Division Manager Elastomer Technologies and Process Optimization Head of Research Group Material Science and Testing
2021	Today	Managing Partner SCIOFLEX GmbH
Research (main areas)		
Elastomer technology		
Long term performance of elastomers		
Failure analysis of soft materials		
Fatigue and fracture of elastomeric materials		
Application of soft materials in the high pressure applications		
Application of polymers in harsh environments		
Projects		
Applicability of elastomers for oilfield applications (01.01.2010 -31.12.2013, funded by FFG "COMET"), project manager		

Structure properties relationship of high performance thermoplastics and elastomers for seals and hoses (01.01.2014 -31.12.2016, funded by FFG "COMET"), project manager
New approaches towards reinforced elastomer composites by in situ polymerization of functional resin (01.01.2017 -31.12.2020, funded by FFG "COMET"), project manager
Polymers for harsh environmental utilization (01.01.2017 -31.12.2020, funded by FFG "COMET"), project manager
Polymers 4 Hydrogen (01.01.2020 – 30.05.2021, funded by FFG "COMET Modul"), executive manager, project manager
Konzeptstudie SF 900 Aerodynamische Verkleidung einer Fahrwerksverkleidung (01.01.2018 - 30.09.2018) project manager
Elastic load coupling with tailored elastomer composites (01.01.2017 -31.12.2020, funded by FFG "COMET"), project assistance
Entwicklung einer Methodik zur Vorhersage des Versagens in elastomeren Gurten mittels Finite Elemente Simulation (01.11.2016 -31.12.2018), project assistance
Entwicklung von Hochdruckkugelhähnen und weiterem Hochdruckequipment für Tiefseeanwendungen in der Öl- und Gasindustrie (01.11.2016 -31.12.2018), project assistance
Publications (<i>last five years</i>)
Macher, J., Hausberger, A., Macher, A.E., Morak, M., Schrittester, B. Critical review of models for H ₂ -permeation through polymers with focus on the differential pressure method (2021) Int. J. of Hydrogen Energy, 46, 43, pp. 22574-22590. DOI: 10.1016/j.ijhydene.2021.04.095
Beter, J., Maroh, B., Schrittester, B., Mühlbacher, I., Griesser, T., Schlögl, S., Fuchs, P.F., Pinter, G. Tailored interfaces in fiber-reinforced elastomers: A surface treatment study on optimized load coupling via the modified fiber bundle debond technique (2021) Polymers, 13 (1), art. no. 36, pp. 1-17. DOI: 10.3390/polym13010036
Mansouri, M.R., Beter, J., Fuchs, P.F., Schrittester, B., Pinter, G. Quantifying matrix-fiber mechanical interactions in hyperelastic materials (2021) International Journal of Mechanical Sciences, 195, art. no. 106268, . DOI: 10.1016/j.ijmecsci.2021.106268
Schieppati, J., Schrittester, B., Wondracek, A., Robin, S., Holzner, A., Pinter, G. Temperature impact on the mechanical and fatigue behavior of a non-crystallizing rubber (2021) International Journal of Fatigue, 144, art. no. 106050, . DOI: 10.1016/j.ijfatigue.2020.106050
Strohmeier, L., Schrittester, B., Schlögl, S. Approaches Toward In Situ Reinforcement of Organic Rubbers: Strategy and Recent Progress (2021) Polymer Reviews, . DOI: 10.1080/15583724.2021.1897998
Balasoorya, W., Clute, C., Schrittester, B., Pinter, G. A Review on Applicability, Limitations, and Improvements of Polymeric Materials in High-Pressure Hydrogen Gas Atmospheres (2021) Polymer Reviews, . DOI: 10.1080/15583724.2021.1897997
Mansouri, M.R., Fuchs, P.F., Criscione, J.C., Schrittester, B., Beter, J. The contribution of mechanical interactions to the constitutive modeling of fiber-reinforced elastomers (2021) European Journal of Mechanics, A/Solids, 85, art. no. 104081. DOI: 10.1016/j.euromechsol.2020.104081

Beter, J., Schrittester, B., Meier, G., Lechner, B., Mansouri, M., Fuchs, P.F., Pinter, G. The tension-twist coupling mechanism in flexible composites: A systematic study based on tailored laminate structures using a novel test device (2020) <i>Polymers</i> , 12 (12), art. no. 2780, pp. 1-16. DOI: 10.3390/polym12122780
Beter, J., Schrittester, B., Lechner, B., Mansouri, M.R., Marano, C., Fuchs, P.F., Pinter, G. Viscoelastic behavior of glass-fiber-reinforced silicone composites exposed to cyclic loading (2020) <i>Polymers</i> , 12 (9), art. no. 1862, . DOI: 10.3390/POLYM12091862
Agnelli, S., Balasooriya, W., Bignotti, F., Schrittester, B. On the experimental measurement of fracture toughness in SENT rubber specimens (2020) <i>Polymer Testing</i> , 87, art. no. 106508, .DOI: 10.1016/j.polymertesting.2020.106508
Beter, J., Schrittester, B., Meier, G., Fuchs, P.F., Pinter, G. Influence of Fiber Orientation and Adhesion Properties On Tailored Fiber-reinforced Elastomers (2020) <i>Applied Composite Materials</i> , 27 (3), pp. 149-164. DOI: 10.1007/s10443-020-09802-w
Prioglio, G., Agnelli, S., Conzatti, L., Balasooriya, W., Schrittester, B., Galimberti, M. Graphene layers functionalized with a janus pyrrole-based compound in natural rubber nanocomposites with improved ultimate and fracture properties (2020) <i>Polymers</i> , 12 (4), art. no. 944, . DOI: 10.3390/POLYM12040944
Beter, J., Schrittester, B., Maroh, B., Sarlin, E., Fuchs, P.F., Pinter, G. Comparison and impact of different fiber debond techniques on fiber reinforced flexible composites (2020) <i>Polymers</i> , 12 (2), art. no. 472, . DOI: 10.3390/polym12020472
Kerschbaumer, R.C., Stieger, S., Gschwandl, M., Hutterer, T., Fasching, M., Lechner, B., Meinhart, L., Hildenbrandt, J., Schrittester, B., Fuchs, P.F., Berger, G.R., Friesenbichler, W. Comparison of steady-state and transient thermal conductivity testing methods using different industrial rubber compounds (2019) <i>Polymer Testing</i> , 80, art. no. 106121, . DOI: 10.1016/j.polymertesting.2019.106121
Gschwandl, M., Kerschbaumer, R.C., Schrittester, B., Fuchs, P.F., Stieger, S., Meinhart, L. Thermal conductivity measurement of industrial rubber compounds using laser flash analysis: Applicability, comparison and evaluation (2019) <i>AIP Conference Proceedings</i> , 2065, art. no. 030041, . DOI: 10.1063/1.5088299
Balasooriya, W., Schrittester, B., Pinter, G., Schwarz, T., Conzatti, L. The effect of the surface area of carbon black grades on HNBR in harsh environments (2019) <i>Polymers</i> , 11 (1), art. no. 61, . DOI: 10.3390/polym11010061
Beter, J., Schrittester, B., Fuchs, P.F. Investigation of adhesion properties in load coupling applications for flexible composites (2019) <i>Materials Today: Proceedings</i> , 34, pp. 41-46. DOI: 10.1016/j.matpr.2020.01.181
Balasooriya, W., Schrittester, B., Pinter, G., Schwarz, T., Induced material degradation of elastomers in harsh environments (2018) <i>Polymer Testing</i> , 69, pp. 107-115.
Muliana, A., Rajagopal, K.R., Tscharnuter, D., Schrittester, B., Saccomandi, G., Determining material properties of natural rubber using fewer material moduli in virtue of a novel constitutive approach for elastic bodies (2018) <i>Rubber Chemistry and Technology</i> , 91 (2), pp. 375-389.
Balasooriya, W., Schrittester, B., Wang, C., Hausberger, A., Pinter, G., Schwarz, T., Tribological behavior of HNBR in oil and gas field applications (2018) <i>Lubricants</i> , 6 (1), art. no. 20.
Balasooriya, W., Schrittester, B., Karunakaran, S., Schlögl, S., Pinter, G., Schwarz, T., Kadar, Z., Influence of Thermo-Oxidative Ageing of HNBR in Oil Field Applications (2017) <i>Macromolecular Symposia</i> , 373 (1), art. no. 1600093.

Balasooriya, W., Schritteser, B., Pinter, G., Schwarz, T., Influence of ageing of HNBR in oilfield applications [Einfluss der Alterung auf HNBR in der Erdölindustrie] (2017) Gummi, Fasern, Kunststoffe, 70 (3), pp. 168-176.

Schritteser, B., Pinter, G., Schwarz, T., Kadar, Z., Nagy, T. Impact of ACN content on the mechanical performance of elastomeric materials (2016) Rubber, fibres, plastics international, pp 40-47.

Schritteser, B., Pinter, G., Schwarz, T., Kadar, Z., Nagy, T. Rapid Gas Decompression Performance of elastomers – A study of influencing testing parameters (2016) Procedia Structural Integrity, pp. 1746-1754, DOI: 10.1016/j.prostr.2016.06.220