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Endurica Launches App for Materials Selection

Companion™ Compares Fatigue Performance of Compound Alternatives

Endurica proudly introduces [Companion](#) – a web app that makes it easy to compare rubber compound properties to meet the durability requirements of your application.

Companion makes it easy to compare materials. The people who have been helping the rubber industry Get Durability Right® since 2008 combine proven scientific principles with the ease of an app on your phone or your laptop. Specify any two materials by entering a few key material properties. Define your application in terms of the mode of deformation (tension, compression, shear), the limits of the dynamic loading cycle (max and min), the mode of control (stress control vs. strain control) and the temperature.

Companion does the rest. Using Endurica's patented Critical Plane Analysis, your materials are ranked for fatigue performance in your specific application. Companion provides plots showing your materials' stress-strain behavior, crack growth behavior, sensitivity to crack precursor size, strain-life / Haigh diagram, and crack orientation.

“40% of product failures can be attributed to poor materials selection decisions. When engineers can easily explore the relationships between material properties and durability, the result is better decisions. Our aim with Companion is to bridge the gaps between materials engineering and product engineering” explains Will Mars, founder and president of Endurica. “Our fatigue solvers are now widely used in rubber product engineering, but materials selection has such a huge impact on durability that we see a need to bring these ideas and tools to materials development teams. Getting materials engineers and product engineers using a common, validated framework prevents the unnecessary conflicts and wasted effort that lead to poor durability. The material properties and concepts in the Companion App are exactly the same as those used in our product simulation tools, but the user experience in the app is centered around the materials selection decision.”

Its free to get started with the basic version of Companion. Advanced features are available on a monthly or annual subscription basis. Go to companion.endurica.com to try it today!

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About Endurica LLC

[Endurica](#) provides the world's most comprehensive tools and workflows for fatigue analysis of elastomers. Endurica solutions include [simulation software](#), [material characterization](#) services, [testing instruments](#), and [training](#). The company was founded in 2008 and is one of just 38 companies recognized nationally with a [2020 Tibbetts Award](#) as the [best of the best in cutting-edge technology](#), research and development by the [U.S. Small Business Administration](#).

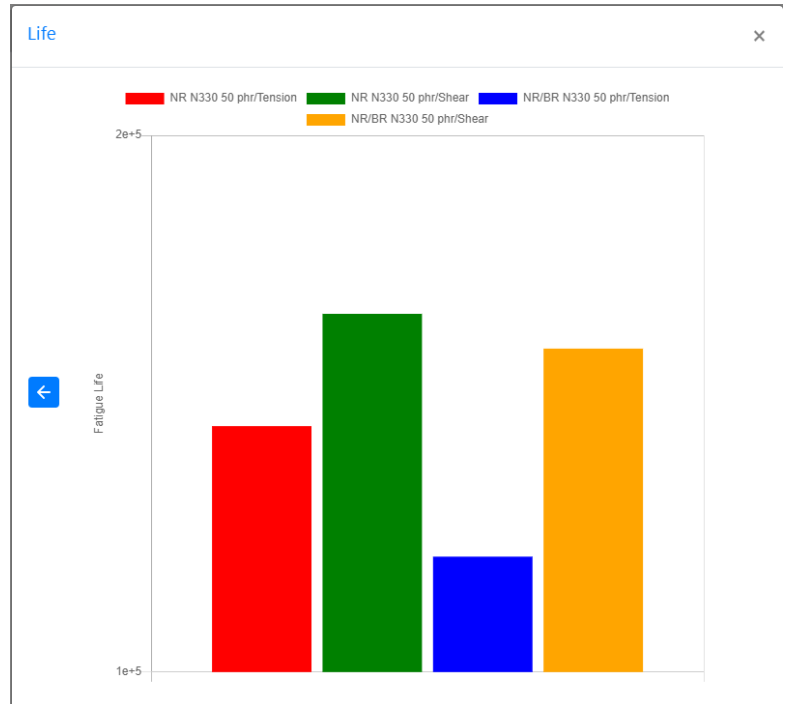
companion fatigue property comparator

Specifications

Materials | Loadings | Options

Material Name	NR N330 50 phr	NR/BR N330 50 pl
Reference Temp <small>degC</small>	20	20
Young's Modulus E <small>MPa</small>	1.15	0.98
Critical Tearing T_c <small>kJ/m²</small>	10.3	8.7
Intrinsic Strength T₀ <small>kJ/m²</small>	0.05	0.06
Precursor Size C₀ <small>mm</small>	.023	0.011
FCG Slope F	2	2.3
FCG Constant r_c <small>mm/cyc</small>	0.001	0.001
Crystallization Strength	3	2.5

SI-mm | SI-m | Imperial | Calculate



Screen shots from Endurica Companion show how easy it is to use the app. At left is the main input screen. At right, a sample of the compound durability ranking reported by Companion.

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