

DragonCoat fire retardant coating

IMPROVING PASSENGER SAFETY ACROSS THE GLOBE





The Trelleborg Industrial AVS (TIAVS) development team have been working on a solution to rubber parts acting as fuel for fires on railway vehicles. Consequently, TIAVS have developed a flexible coating which is smoke and fire retardant, delaying the effects of fire on rubber products (pat.approved).

BENEFITS

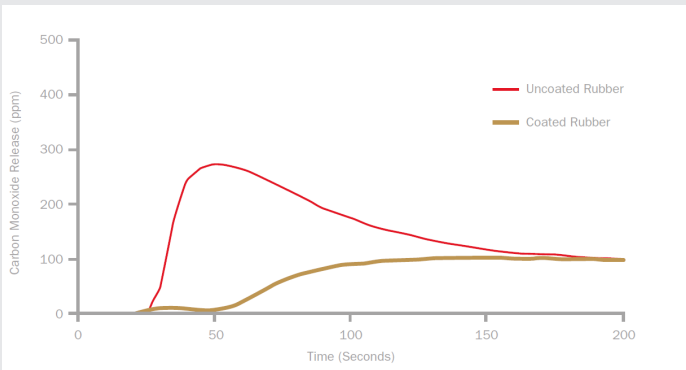
- Reduces the flammability of the product
- Delays smoke and toxic emissions
- Delays the onset of flames

In the context of a fire occurring on a train, these factors reduce the risk of passenger exposure by increasing evacuation time by up to 3 minutes.

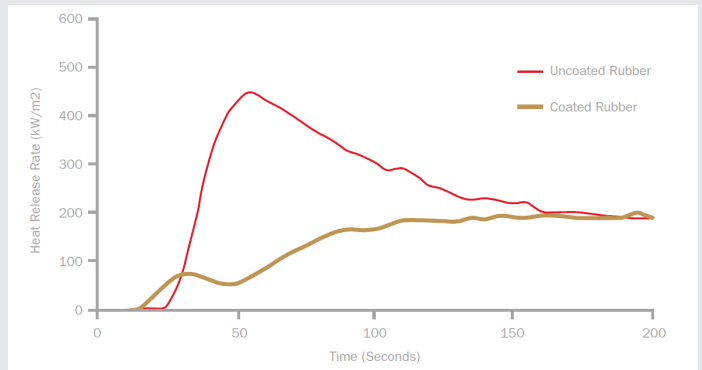
TIME GAINED FOR EVACUATION

- Heat Release Rate → 180 seconds gained
- Total Smoke Release → 180 seconds gained
- Carbon Monoxide → 180 seconds gained (CEN TS 45455 - part 2 compliant)
- Carbon Dioxide → 195 seconds gained (CEN TS 45455 - part 2 compliant)

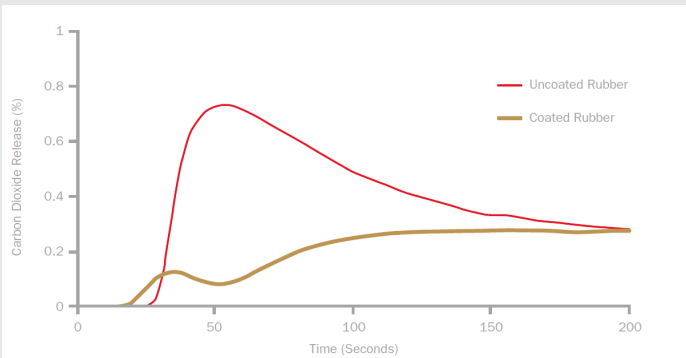
Carbon Monoxide (→ 180 seconds gained)



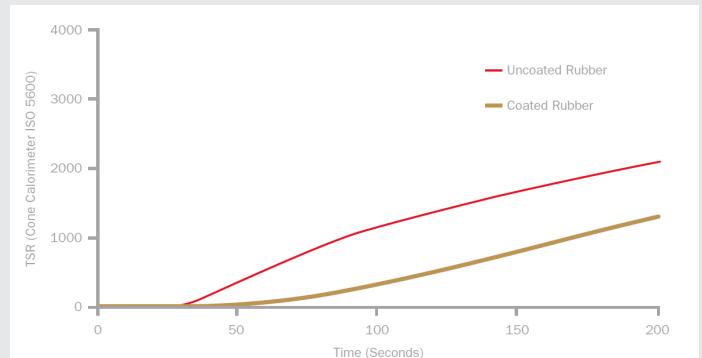
Heat Release Rate (→ 180 seconds gained)



Carbon Dioxide (→ 195 seconds gained)



Total Smoke Release (→ 180 seconds gained)





FIRE TESTING

The fire performance of DragonCoat is illustrated at the base of the page. A test was set up to compare a large coated rubber spring with a non-coated product. The part selected contains approximately 10 litres of natural rubber.

Both products were exposed to a gas flame for two minutes. The non-coated product showed characteristics of standard natural rubber; it ignited easily and yielded heat and heavy smoke.

The same test was then applied to the same type of product, this time with the DragonCoat applied. The treated product allowed initial localized ignition but released minimal heat and smoke, and self extinguished at 12 minutes.

SUSPENSION PERFORMANCE

The flexibility of the coating allows the spring itself to retain all essential characteristics in terms of bogie suspension. Extensive testing has been undertaken throughout the development project to ensure that the core product performance was not compromised

During testing a coated part was shown to:

- Maintain consistent suspension & anti-vibration performance.
- Retain full cohesion between the coating and the rubber section of the spring.
- Survive extreme load & displacement test conditions

Non Coated Product



With DragonCoat Applied



FURTHER TESTING

Further testing simulated the full service life of a standard suspension spring. Under these conditions the coating was left intact, showing that the fire coating will not be significantly affected during the service life of the spring.



Using advanced polymer technology, Trelleborg's industrial anti-vibration solutions (IAVS) operation specializes in the field of rubber-to-metal bonding for the removal of unwanted noise and vibration. Solutions include mountings, bearings and suspension. As part of the Trelleborg Industrial Solutions business area of Trelleborg Group, Trelleborg's Industrial AVS operation utilizes over 100 years of experience to provide solutions for numerous applications and environments, with a reputation of high quality, performance and service life. Markets include rail, marine, industrial and off-highway. The company focuses on isolation, attenuation and suspension solutions of unrivalled quality and reliability. The company's commitment and expert polymer technologies create maximum business value through improved longevity, productivity and cost effectiveness, while also optimizing comfort, health and safety. www.trelleborg.com/anti-vibration-solutions.

WWW.TRELLEBORG.COM/ANTI-VIBRATION-SOLUTIONS



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