

## Frequently Asked Questions: Puncture Resistance Technology

What is Puncture Resistance?

Puncture resistance is a specific mechanical property that describes a material's ability to withstand penetration by sharp or pointed objects. This characteristic is vital in many applications where materials are subjected to possible puncturing or piercing forces.

For more details: read: <https://biopdi.com/puncture-resistance-testing/>

What is Puncture Resistant Tyre Technology?

Puncture Resistant Tyre Technology is evolved from 'Tapas Aasan' sheets that is being developed as part of Ultraswachh technology initiative of DRDO. These elastomeric gel with ability to resist pressure upto 1600 psi was poured in its molten state inside the tyre providing coverage to every part. Being closed cell polymer with elasticity of > 500%, it takes shape of internal part of tyres. Once filled with air, the modified tyre was tried with artificial puncturing with long nails. It was observed that nails remained fitted it without any loss of air as well as when removed, internal gel takes over ensuring no leakage of air.

What are the competitive technologies available?

JK Tyres had launched puncture proof tires in 2022 itself. Click link for following details: <https://www.european-rubber-journal.com/article/2091162/jk-tyre-launches-indias-first-puncture-proof-tires>. Similarly Apollo tires works with Michelin Inc. USA to provide puncture resistant tires.

**How viscoelastic gel based technology is different from others in terms of puncture resistance?**

Viscoelastic gel is used to contain ozone within sterilization chamber as part of Ultraswachh technological initiative of DRDO. Such corrosive resistance ability as well as intrinsic properties of gel makes it ideal candidate for such puncture resistance technology hence tried for the same. It provides inner coating universally to all types of tires irrespective of their material, design, ergonomics and intended usage. This technology is fitted post development of tires as retrofitting as value added feature. The tires launched by JK, Apollo and other companies are OEM products for specific intended usage providing multiple options in specific sector. Even in these tires, the viscoelastic gel technology can provide extra value addition. Hence, both technologies are complimentary and should not be compared.

How can we get this technology in our tires?

Kindly visit following link: <https://ultraswachh.in/puncture-resistant-tyres> and click buy at the bottom of page. Send your details and requirement you will receive a quote and procedure for modification of your tires. It is factory based operations.