Highlight 1  Zeon Products Making Contributions to Society

Zetpol®, hydrogenated nitrile rubber for stronger rubber

Examples of parts that use Zeon’s specialty rubbers
- Timing belts
- V-belts
- Hoses
- Various gaskets
- Various seals
- Various O-rings

Gasoline-engine cars are said to be assembled from tens of thousands of parts. While cars may look like hunks of metal, in fact they use a lot of rubber parts. Rubber supplied by Zeon plays an important role in the auto industry. Rubber used around the engine in particular must be highly resistant to oil and high temperatures. Zeon offers specialty rubbers with performance that meets various customer requirements, including acrylic rubber, acrylonitrile butadiene rubber, epichlorohydrin rubber, and hydrogenated nitrile rubber. Of them, Zetpol® hydrogenated nitrile rubber developed with proprietary Zeon technology has received very positive reviews for its heat resistance.

Zeon contributes to society with specialty rubbers that improve vehicle performance

Raw material rubber such as Zetpol® produced by Zeon gets assembled in cars through rubber compound manufacturers, parts manufacturers, and car manufacturers. With its high heat resistance, Zetpol® improves parts performance, leading to improved vehicle performance and lighter weight. This in turn leads to energy conservation, CO₂ emission reductions, and resource savings.

Zeon’s technological strengths support the auto industry

The Asia Technical Support Laboratory (ATSL) in Singapore provides technical support in such areas as blending, kneading, and physical property evaluations of rubbers made with local materials for Asian users. This kind of support is made possible by the technology Zeon has built up in the United States, Europe, and Japan. Zeon’s technological strengths not only in supplying products but also in providing support tailored to local needs are earning recognition in Asia.
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Why Zetpol® specialty cross-linked type is better than conventional products

Specialty rubbers need to offer oil, heat, and cold resistance as well as durability. Improving the performance of one of these properties, however, results in a trade-off of degraded performance for the other properties. Conventional hydrogenated nitrile rubber reduces the carbon–carbon double bonds through hydrogenation to increase heat resistance, but this reduces durability (compression set). Zetpol® specialty cross-linked type adds specialty cross-linking to achieve both heat and compression set resistance.

Conventional product

- CH₂ = CH
- CH₂ = CH
- CH₂ = CH

Acrylonitrile  Carbon–carbon saturated bond  Carbon–carbon unsaturated bond

Zetpol® specialty cross-linked type

- CH₂ = CH
- CH₂ = CH
- CH₂ = CH

Acrylonitrile  Carbon–carbon saturated bond  Carbon–carbon unsaturated bond

What is compression set, for which Zetpol® is recognized?

The sealability of gaskets, packing, and seal materials are evaluated using compression set. Rubber is compressed under high temperature, and its compression set, or the percentage that does not recover its original shape, is measured. Zetpol® specialty cross-linked type is able to offer improved heat resistance of 10°C or more over conventional products in compression set. This makes it possible to manufacture high-temperature resistant products that have longer life.

Increased production capacity of Zetpol® specialty cross-linked type

To meet the high demand for Zetpol® specialty cross-linked type, the production capacity of the Kawasaki Plant is being increased, with construction scheduled to be completed in September 2019.