

K-Coat-R

Ozone Protection Rubber Coating



K-Coat-R is an anti-ozone coating material to improve weatherability of rubber bearings!

The elastic special coating material has both weatherability (anti-ozone) and deformability. Bridge rubber bearings are damaged under harsh environment susceptible to ozone cracking. If such cracks are left as they are, it is possible for them to develop. Thus, it is recommended to repair such damages in an early stage.

One of the most popular repair methods is by coating the rubber cover of the bearing. Kawakin has developed the coating material K-coat-R, which is highly deformable and provides a perfect protection against ozone.

Characteristics

- **weatherability (anti-ozone)**

The coating material's main component is a polymer which has high resistance against ozone cracking. The improved weatherability of the coated rubber bearing presents ozone resistance up to 10 times the requirement of the Japanese standards for Highway bridges.

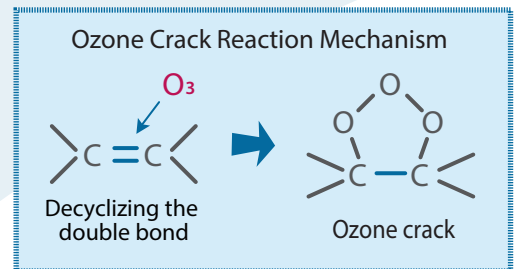
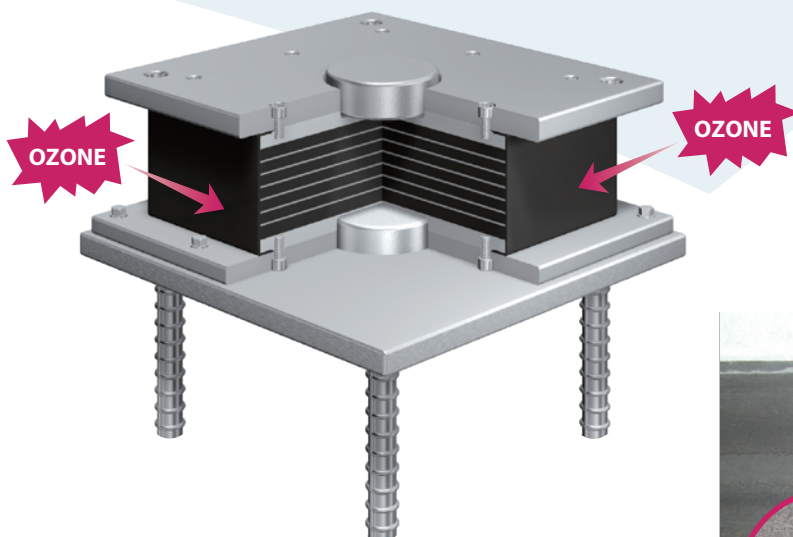
- **Deformability**

It can follow more than 300% shear strain of rubber bearing deformation.

- **(Workability)**

It can be easily applied to both existing and new rubber bearings, thus, it is well suited for on-site repairs.

Under harsh environment such as ozone...



rubber bearing with ozone cracks

Ozone Resistance Test

The results of the ozone resistance test on a rubber specimen are shown below. The test specifications are in compliance with JIS K 6259.

Test specifications

40°C × 50pphm × 50% elongation and no cracks after 96h, Construction Control Manual by NEXCO

Test results

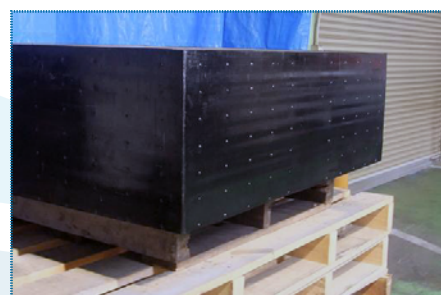
Coating type	Without coating	Silicon coating	K-Coat-R
Ozone resistance test results	Cracks appeared within 24h	The coating film damaged after 260h	No damage even after 1000h

*Due to focusing on the coating evaluation, the rubber pieces were different from general rubber bearings. Ozone resistance was not given to the test pieces, thus cracks appeared on the piece without coating in a very early stage.

Deformability Test



Before coating



After coating

Test results



[side]

Shear strain 300%

Shear strain	70%	150%	300%
No. of cycles	50 cycles	5 cycles	5 cycles
Test result	no damage	no damage	no damage

Workability

The covering rubber is cleaned and degreased, then K-Coat-R is applied with a brush.

It is easy to apply even in already installed existing rubber bearings, using special tools such as electric or air type tools.



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