Chloramine-Resistant Sealing Materials
Bulletin No. PSG 5027

The Problem:
The change from free chlorine to chloramine as a primary means of disinfecting potable water is causing NSF-certified seal materials to degrade, spawning performance issues and warranty claims for water handling equipment manufacturers.
A comprehensive study by Parker documents the premature degradation and failure of NSF-certified elastomeric materials when exposed to chloramine-treated water.

THE RESEARCH.
The standard ASTM D6284 test for rubber properties was conducted on NSF-certified elastomeric compounds, including existing Parker formulations, new Parker chloramine-resistant formulations, and competitor formulations. A variety of samples were placed in water, containing chloramine as 50 ppm total residual chlorine. The water was kept at a constant temperature of 70°C and was refreshed per the ASTM standard.

THE RESULTS.
Parker’s new chloramine-resistant formulations show no sign of degradation and minimal swell after eight weeks of constant exposure to the chloramine solution. Other tested materials show severe degradation and swelling with the same exposure.

THE TAKEAWAY.
Parker’s new chloramine-resistant materials, both standard and lubricated, offer improved resistance to chloramine degradation and swelling over time. Based on the test results, Parker’s chloramine-resistant materials will provide significantly longer useful seal life compared to all other tested materials. This can reduce potential warranty claims, when used as seals in plumbing fixtures and potable water handling equipment.

The new Parker chloramine-resistant materials are tested and certified by NSF International for potable water applications and are available in both standard and custom shapes.

To learn more about Parker’s new chloramine-resistant seal materials, call 1-800-C-PARKER.
The Solution:
Research shows Parker's new chloramine-resistant materials can significantly increase seal life while reducing warranty issues for our customers.
Other Parker NSF-Certified Materials
Parker also offers a wealth of other NSF-certified materials for applications in plumbing fixtures and potable water handling equipment. They include the following:

Parker Compounds for Plumbing**

<table>
<thead>
<tr>
<th>Parker Compound</th>
<th>Polymer</th>
<th>Hardness</th>
<th>Service</th>
<th>Approval</th>
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<tbody>
<tr>
<td>EJ274-70*</td>
<td>EPDM</td>
<td>70</td>
<td>Commercial Hot, Internally Lubed, Chloramine Resistant</td>
<td>NSF61</td>
</tr>
<tr>
<td>E1549-70</td>
<td>EPDM</td>
<td>70</td>
<td>Commercial Hot</td>
<td>NSF61, WRAS, KTW, ACS</td>
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<td>Commercial Hot, Press-Fit Fittings</td>
<td>NSF61, WRAS, KTW, ACS, KIWA, W270, EN681-1, W534</td>
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</table>

* Non-internally lubed version EJ273-70 available pending NSF certification

** Other materials available for specific applications

International Certifications:
WRAS - United Kingdom
KTW - Germany
W270 - Germany (microbiological growth)
W534 - Germany (pipe fittings)
ACS - France
KIWA - Netherlands
EN681-1 - Europe (pipe fittings)

Parker Hannifin Corporation
Engineered Seals Division
501 South Sycamore Street
Syracuse, IN 46567
Phone: 574-528-9400 (Ask for Application Engineering Department)
Fax: 574-528-9640
www.parker.com/esd

Parker Hannifin Corporation
O-Ring Division
2360 Palumbo Drive
Lexington, KY 40509
Phone: (859) 269-2351
Fax: (859) 335-5128
www.parkerorings.com