### Advantages and Limitations of Some Elastomer Types

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Advantages</th>
<th>Limitations</th>
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</thead>
</table>
| NR               | Natural Rubber (cis-polyisoprene) | • Good dynamic prop.  
• Good tensile and tear strength  
• Good abrasive resistance  
• Poor resistance to chemicals and oil substances  
• No long-time exposure to sunlight, ozone and heat | |
| SBR              | Styrene-butadiene Rubber    | • Good tensile strength, dynamic prop. and abrasive resistance  
• Good substituent for NR (but sometimes more cost-efficient)  
• Poor resistance to chemicals and oil substances  
• No long-time exposure to sunlight, ozone and heat | |
| BR               | (poly-)Butadiene Rubber     | • Excellent dynamic properties  
• Good cold resistance  
• Good tear strength  
• Poor resistance to chemicals and oil substances  
• No long-time exposure to sunlight, ozone and heat | |
| EPDM             | Ethylene Propylene Diene Monomer | • Excellent resistance to ozone, oxidants and weather (water) conditions  
• Good heat resistance  
• Excellent insulator  
• Good chemical resistance (not oil)  
• Poor resistance to chemicals and oil substances  
• Less mechanical properties compared to NR | |
| CR               | Chloroprene Rubber (Neoprene) | • Good resistance to ozone, weather conditions (water) and sunlight  
• Good chemical and medium oil resistance  
• Good high temperature resistance  
• Good all-round rubber  
• More expensive than general purpose synthetic rubbers  
• No resistance to strong oxidizing acids, esters, ketones, chlorinated- and aromatic hydrocarbons | |
| NBR              | (Acrylo-)Nitrile Butadiene Rubber | • Good oil and solvent resistance  
• Good heat resistance  
• Good mechanical properties  
• Good resistance to gas permeability  
• No good resistance to ozone, ketones, esters, aldehydes and chlorinated hydrocarbons  
• Higher price only justified when oil resistance is required | |
| HNBR             | Hydrogenated Nitrile Butadiene Rubber (Therban) | • Very good heat and low temp. resistance  
• Good oil and solvent resistance  
• Good ozone and weather resistance  
• Good mechanical properties  
• High cost | |
| MVQ              | Methyl Vinyl Silicone Rubber (Silicone) | • Excellent heat resistance  
• Very good low temperature resistance  
• Good insulator  
• Higher price only justified when excellent heat resistance is required  
• Low tensile strength | |
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<tr>
<th>Material</th>
<th>Description</th>
<th>Properties</th>
<th>Additional Properties</th>
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</thead>
<tbody>
<tr>
<td>FKM</td>
<td>Fluoropolymer (Viton)</td>
<td>• Excellent heat resistance</td>
<td>• High price</td>
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<tr>
<td></td>
<td></td>
<td>• Excellent chemical, ozone, weather, oil and solvent resistance</td>
<td>• Intermediate mechanical properties</td>
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<tr>
<td></td>
<td></td>
<td>• Good resistance to gas permeability</td>
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<tr>
<td>IIR</td>
<td>Isobutene-Isoprene Rubber (butyl rubber)</td>
<td>• Excellent resistance to gas permeability</td>
<td>• Intermediate mechanical properties</td>
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<tr>
<td></td>
<td></td>
<td>• Good resistance to chemical, ozone, weather and oil</td>
<td></td>
</tr>
<tr>
<td>CSM</td>
<td>Chlorosulphonated Polyethylene (Hypalon)</td>
<td>• Good heat resistance</td>
<td>• Intermediate oil resistance</td>
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<tr>
<td></td>
<td></td>
<td>• Good ozone and weather (water) resistance</td>
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<td></td>
<td></td>
<td>• Good chemical resist.</td>
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<td></td>
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<td>• Colour-proof</td>
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<tr>
<td></td>
<td></td>
<td>• Excellent abrasive resistance</td>
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