Characteristics of Urethane, Rubbers and Sponges

Features of High Performance Urethane and Rubber

**Urethane Properties**

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Unit</th>
<th>Standard</th>
<th>Volkmann®</th>
<th>Arison Resistant</th>
<th>Ceramic, Urethane</th>
<th>Injection Moulding</th>
<th>Silicone Resistant</th>
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</thead>
<tbody>
<tr>
<td>Shore A</td>
<td>D</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td>30</td>
<td>25</td>
<td>20</td>
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<tr>
<td>Shore A</td>
<td>D</td>
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<td>70</td>
<td>50</td>
<td>35</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Shore A</td>
<td>D</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

**Features of Ceramic Urethane**

- **Ceramic Urethane**
  - Suitable for use in a wide variety of environments due to its unique properties.
  - Has a very high wear resistance (up to 2.5 times higher than standard urethane).

**Discoloration of Urethane**

- **Vulcan®**
  - Original color remains after exposure to sunlight.
  - No change in physical properties.

- **Arison Resistant**
  - Original color remains after exposure to sunlight.
  - No change in physical properties.

- **Ceramic, Urethane**
  - Original color remains after exposure to sunlight.
  - No change in physical properties.

**Features of Various Urethanes**

- **Material**
  - **Ether Type**
    - Polyurethane
  - **Ester Type**
    - Polyurethane
- **Features**
  - High impact and abrasion resistance
  - Low rolling resistance
  - Excellent adhesion to metal and rubber

**Features of Ceramic Urethane**

- **Ceramic Urethane**
  - High mechanical strength and abrasion resistance
  - Excellent shock-absorbing properties
  - Can be used for applications such as Mechanical Stoppers...

**Features of Shock Absorbing Gel**

- **Shock Absorbing Gel**
  - High stress recovery
  - Excellent shock-absorbing characteristics
  - Suitable for human body protection

**Elongation**

- **Percent (%)**
  - **Ether**
    - 1.13
  - **Ester**
    - 3.38

**Volume Resistivity**

- **Volume Resistivity**
  - **Ether**
    - 1.13
  - **Ester**
    - 3.38

**Surface Resistivity**

- **Surface Resistivity**
  - **Ether**
    - 1.13
  - **Ester**
    - 3.38

**Impact Resilience**

- **Impact Resilience**
  - **Ether**
    - 71.6
  - **Ester**
    - 67.0

**Load (kN)**

- **Load (kN)**
  - **Ether**
    - 650
  - **Ester**
    - 690

**Volume Resistivity**

- **Volume Resistivity**
  - **Ether**
    - 1.13
  - **Ester**
    - 3.38

**Surface Resistivity**

- **Surface Resistivity**
  - **Ether**
    - 1.13
  - **Ester**
    - 3.38

**Shock Absorbing Gel**

- **Shock Absorbing Gel**
  - High stress recovery
  - Excellent shock-absorbing characteristics
  - Suitable for human body protection

**Elasticity of Shock Absorbing Gel P410, 435**

- **Shock Absorbing Gel**
  - High stress recovery
  - Excellent shock-absorbing characteristics
  - Suitable for human body protection

**Steel Ball Collision Noise Level Test**

- **Steel Ball Collision Noise Level Test**
  - **Shock Absorbing Gel**
    - Low noise
  - **Ceramic Urethane**
    - High noise

**Features of Ceramic Urethane and Low Elasticity Rubber (Hanenaito®)**

- **Low Elasticity Rubber**
  - Low hardness
  - Extra low hardness
  - Good abrasion resistance

**Features of Shock Absorbing Foam**

- **Shock Absorbing Foam**
  - High stress recovery
  - Excellent shock-absorbing characteristics
  - Suitable for human body protection

**Features of Special Urethane Foam SOFRAS® P446**

- **Special Urethane Foam**
  - Excellent sound damping and vibration absorbing characteristics
  - Can be used in various applications

**References**

- **Compensation Set of Low Rebound Urethane**
  - Low Rebound Urethane
  - 1%

- **Ceramic Urethane**
  - Low Elasticity Rubber
  - 25%

- **General Purpose Urethane**
  - General Purpose Rubber