

# FIPA - Vacuum Technology

## Vacuum cup materials and their characteristics

| Use                               | Material | NBR         | NR          | Silicone    | Polyurethane (Vulkollan) | FKM         | CR          | EPDM        | SBR         | HNBR        | Vinyl      | Tepuflex  | TPU       |
|-----------------------------------|----------|-------------|-------------|-------------|--------------------------|-------------|-------------|-------------|-------------|-------------|------------|-----------|-----------|
| All-purpose use                   |          | ++++        | ++++        | +++         | +++                      | +           | +++         | +           | +           | ++          | ++         | ++        | ++        |
| Temperature range in °C           |          | -30<br>+80  | -40<br>+80  | -60<br>+200 | -25<br>+80               | -20<br>+200 | -40<br>+100 | -40<br>+130 | -40<br>+80  | -40<br>+160 | -20<br>+80 | 0<br>+70  | 0<br>+80  |
| Temperature range in °F           |          | -22<br>+176 | -40<br>+176 | -76<br>+176 | -13<br>+176              | -4<br>+392  | -40<br>+212 | -40<br>+266 | -40<br>+176 | -40<br>+320 | -4<br>+176 | 32<br>158 | 32<br>176 |
| Shore hardness                    |          | 50-60       | 30-60       | 25-55       | 50-75                    | 60          | 50-60       | 50          | 50          | 55          | 55-60      | 50        | 60        |
| Ozone resistance                  |          | +           | +           | ++++        | +++                      | ++++        | +++         | ++++        | +           | ++++        | +          | ++++      | ++++      |
| Wear                              |          | ++          | +++         | +           | +++                      | ++          | ++          | +           | +++         | +++         | ++++       | +++       | ++++      |
| Oil-grease-gasoline               |          | ++++        | +           | +           | +++                      | ++++        | +           | +           | +           | ++++        | +          | +         | ++++      |
| Rapeseed oil                      |          | ++          | +           | +           | ++                       | ++++        | ++          | +           | +           | ++          | +          | +         | +         |
| Acids                             |          | +           | ++          | +           | +                        | +++         | +           | +           | +           | +           | +          | +         | +         |
| Hot products                      |          | +           | +           | ++++        | +                        | ++++        | +           | +++         | +           | ++++        | +          | +         | +         |
| Hot products (free from silicone) |          | +           | +           | +           | +                        | ++++        | +           | +++         | +           | ++++        | +          | +         | +         |
| Foodstuffs                        |          | +           | ++          | ++++        | +                        | +           | +           | ++          | +           | +           | +          | ++++      | +         |
| Highly antimarking                |          | ++          | ++          | +           | ++                       | ++          | +           | ++          | ++          | ++++        | ++         | +++       | ++++      |

++++ = excellent; +++ = very good; ++ = good; + = adequate up to unsuitable

- > Materials in principal NBR – natural rubber and silicone
- > Depending on use, vacuum suction cups are subject to mechanical and chemical wear. The above data therefore are only approximate.
- > Suction cups made of Vulkollan, Tepuflex and TPU are highly wear-resistant; their marking behavior is very good.
- > Special-purpose suction cups with felt lining are highly antimarking; they may be used at temperatures up to 550° C (low holding force).
- > Further questions will be answered by our Technical Sales Team - please call **+49(0)89-962489-0**.

### Hauptsitz:

FIPA GmbH Vacuum Technology | EOAT  
 Freisinger Straße 30 · 85737 Ismaning/Germany  
 Telefon +49(0)89/962489-0 · Fax +49(0)89/962489-11  
 www.fipa.com · info@fipa.com  
 Freecall (Germany & USA): +800-CALLFIPA

