

Nitric acid 20% aq compatibility with AFLAS®



Test method Soaked into the fluid at 70°C for 168h & 720h.
Test fluid Nitric acid 20% aq
Test piece AFLAS® 100S (standard formulation)

Formulation

| | |
|-----------------|-----|
| AFLAS® 100S | 100 |
| MT-Carbon(N990) | 30 |
| TAIC* | 5 |
| Perkadox® 14** | 1 |
| Sodium Stearate | 1 |

(phr)

Cure Conditions

Press molded at 170C for 20min
 Post cured at 200C for 4h

| Properties (before test) | AFLAS® 100S | FKM (polyol cure) |
|--------------------------|-------------|-------------------|
| Tensile strength [MPa] | 22 | 14 |
| Tensile Elongation [%] | 222 | 173 |
| Hardness [shore-A] | 72 | 86 |

| Nitric acid 20% aq compatibility 70 °C for 168 hours | AFLAS® 100S | FKM (polyol cure) |
|--|-------------|-------------------|
| Change of Tensile Strength [%] | -7 | -14 |
| Change of Tensile Elongation [%] | 9 | 12 |
| Change in Hardness [points] | -1 | -7 |
| Volume change [%] | 3.9 | 23.4 |

| Nitric acid 20% aq compatibility 70 °C for 720 hours | AFLAS® 100S | FKM (polyol cure) |
|--|-------------|-------------------|
| Change of Tensile Strength [%] | -31 | -57 |
| Change of Tensile Elongation [%] | 20 | -13 |
| Change in Hardness [points] | -4 | -27 |
| Volume change [%] | 11.2 | 103.3 |

* Triallylisocyanurate

** 1,3-bis(t-butylperoxy)-diisopropylbenzene. Perkadox® is a registered trademark of Akzo Nobel Chemicals B.V.