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# TFE/P FEPM 83 DUROMETER DATA SHEET FOR COMPOUND A75

#### **Compound Features:**

- Excellent continuous heat resistance.
- Excellent resistance to acids and bases.
- High electrical resistivity.
- Excellent oil resistance.
- Excellent resistance to amines.
- Moderate compression set resistance.
- Good abrasion and wear resistance.
- Moderate short-term resiliance.
- Excellent permeation resistance.

#### **Compound Limitations:**

- Poor resistance to automotive and aircraft brake fluids.
- Poor resistance to ketones (MEK).
- Poor resistance to low molecular esters and ethers.
- Poor resistance to acetone and ethyl acetate.

#### **Temperature Range:**

0°F to +400°F (-17°C to +204°C)

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| ORIGINAL PROPERTIES |             |             |         |               |              |
|---------------------|-------------|-------------|---------|---------------|--------------|
| Properties          | ASTM        | Test Method | Unit of | AMS 7255C     | A75 Compound |
|                     | Designation |             | Measure | Specification | Property     |
| Durometer           |             | D2240       | Shore A | 75 ± 5        | 79           |
| Tensile Strength    |             | D1414       | Psi     | 1600 min      | 1823         |
| Ultimate Elongation | _           | D1414       | %       | 150 min       | 203          |
| Specific Gravity    |             | D297        | g/cc    | Report        | 1.52         |

| TR-10 LOW TEMPERATURE RESISTANCE |             |                     |         |                    |              |  |  |
|----------------------------------|-------------|---------------------|---------|--------------------|--------------|--|--|
| Properties                       | ASTM        | Test Method         | Unit of | AMS 7255C          | A75 Compound |  |  |
|                                  | Designation |                     | Measure | Specification      | Property     |  |  |
| Temperature Retraction           | -           | ASTM D1329<br>TR-10 | °F      | +39°F<br>Or Colder | +36°F        |  |  |

| LOW TEMPERATURE BRITTLE POINT |             |             |         |                    |              |  |  |  |
|-------------------------------|-------------|-------------|---------|--------------------|--------------|--|--|--|
| Properties                    | ASTM        | Test Method | Unit of | AMS 7255C          | A75 Compound |  |  |  |
|                               | Designation |             | Measure | Specification      | Property     |  |  |  |
| Brittle Point                 | -           | ASTM D1327  | °F      | -31°F<br>Or Colder | -38°F        |  |  |  |

| HEAT AGED               |             |             |         |               |              |  |  |  |
|-------------------------|-------------|-------------|---------|---------------|--------------|--|--|--|
| Properties              | ASTM        | Test Method | Unit of | AMS 7255C     | A75 Compound |  |  |  |
|                         | Designation |             | Measure | Specification | Property     |  |  |  |
| Durometer Change        |             |             | Shore A | 0 to + 10     | 0            |  |  |  |
| Tensile Strength Change |             | ASTM D573   | %       | -25 Max       | +8           |  |  |  |
| Elongation Resistance   | -           | 70 Hours    | %       | -25 Max       | +30          |  |  |  |
| Change                  |             | @ 482°F     | 70      | 25 IVIAX      | 130          |  |  |  |
| Weight Change           |             |             | %       | ± 5           | -2.4         |  |  |  |

| FLUID RESISTANCE - 50% SODIUM HYDROXIDE IN WATER IMMERSION |             |                   |          |               |              |  |  |
|--|-------------|-------------------|----------|---------------|--------------|--|--|
| Properties   | ASTM        | Test Method       | Unit of  | AMS 7255C     | A75 Compound |  |  |
|  | Designation |                   | Measure  | Specification | Property     |  |  |
| Durometer Change   |             | _                 | Shore A  | ± 5           | +2           |  |  |
| Tensile Strength Change                                    |             | ASTM D471 &       | %        | -20 Max       | +6           |  |  |
| Elongation Resistance                                      | -           | D1414<br>22 Hours | 0/ 15 84 | -             |              |  |  |
| Change   |             | @ 212°F           | %        | -15 Max       | -5           |  |  |
| Volume Change  |             | <u> </u>          | %        | 0 to +5       | 0            |  |  |

Information within is believed to be accurate and reliable. However, The O-Ring Store, LLC makes no warranty, expressed or implied, that parts supplied in this material will perform satisfactorily in specific applications. It's the customer's responsibility to evaluate the material prior to use.

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| FLUID RESISTANCE - AMS 3023 |             |                              |         |               |              |  |  |  |
|-----------------------------|-------------|------------------------------|---------|---------------|--------------|--|--|--|
| Properties                  | ASTM        | Test Method                  | Unit of | AMS 7255C     | A75 Compound |  |  |  |
|                             | Designation |                              | Measure | Specification | Property     |  |  |  |
| Durometer Change            |             |                              | Shore A | -25 Max       | -9           |  |  |  |
| Tensile Strength Change     |             | ASTM D471 &                  | %       | -30 Max       | -16          |  |  |  |
| Elongation Resistance       | -           | D1414<br>70 Hours<br>@ 392°F | 0/      | 0/ 20 Mari    | 44           |  |  |  |
| Change                      |             |                              | %       | -20 Max       | -11          |  |  |  |
| Volume Change               |             | G 332 1                      | %       | 0 to +30      | +22.6        |  |  |  |

| FLUID RESISTANCE – IRM 903 |             |                   |                |               |              |  |  |
|----------------------------|-------------|-------------------|----------------|---------------|--------------|--|--|
| Properties                 | ASTM        | Test Method       | Unit of        | AMS 7255C     | A75 Compound |  |  |
|                            | Designation |                   | Measure        | Specification | Property     |  |  |
| Durometer Change           |             |                   | Shore A        | 0 to -12      | -3           |  |  |
| Tensile Strength Change    |             | ASTM D471 &       | %              | -25 Max       | -12          |  |  |
| Elongation Resistance      | -           | D1414<br>70 Hours | %              | -20 Max       | . 0          |  |  |
| Change                     |             | @ 302°F           | <del>7</del> 0 | -ZU IVIdX     | +8           |  |  |
| Volume Change              |             | 9021              | %              | 0 to +20      | +12.6        |  |  |

| FLUID RESISTANCE – AS1241 TYPE IV |             |                     |         |               |              |  |  |
|-----------------------------------|-------------|---------------------|---------|---------------|--------------|--|--|
| Properties                        | ASTM        | Test Method         | Unit of | AMS 7255C     | A75 Compound |  |  |
|                                   | Designation |                     | Measure | Specification | Property     |  |  |
| Durometer Change                  |             |                     | Shore A | -20 Max       | -9           |  |  |
| Tensile Strength Change           |             | ASTM D471 & D1414   | %       | -40 Max       | -34          |  |  |
| Elongation Resistance             | -           |                     | 0/      | 20 May        | 0            |  |  |
| Change                            |             | 70 Hours<br>@ 212°F | %       | -20 Max       | U            |  |  |
| Volume Change                     |             | <u>س 212 ۱</u>      | %       | 0 to +30      | +26.1        |  |  |

| COMPRESSION SET                 |             |            |         |               |              |  |  |  |
|---------------------------------|-------------|------------|---------|---------------|--------------|--|--|--|
| Properties                      | ASTM        | Test       | Unit of | AMS 7255C     | A75 Compound |  |  |  |
|                                 | Designation | Method     | Measure | Specification | Property     |  |  |  |
| Permanent Set (22 Hrs @ 347°F)  |             | ASTM       | %       | 35 Max        | 17.1         |  |  |  |
| Permanent Set (168 Hrs @ 347°F) | _           | D395 B     | %       | 50 Max        | 45.6         |  |  |  |
| Permanent Set (22 Hrs @ 392°F)  |             | &<br>D1414 | %       | 35 Max        | 21.1         |  |  |  |

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