



# Chemraz® 541

## 汎用パーフルオロエラストマー (FFKM)

|                                   |                      |   |                |
|-----------------------------------|----------------------|---|----------------|
| 化合物番号/材料名:<br><b>Chemraz® 541</b> | ゴム等級:<br><b>FFKM</b> | 使用温度範囲:<br><b>3°F ~ 446°F (-16°C ~ 230°C)</b> | 色:<br><b>黒</b> |
|-----------------------------------|----------------------|---|----------------|

| Description   | ASTM Method                     | Unit              | Typical |      |
|---|---------------------------------|-------------------|---------|------|
| <b>Original Properties</b>                            |                                 |                   |         |      |
| Specific Gravity                                      | D792                            | -                 | 2       |      |
| Hardness, Type A                                      | D1414                           | Points            | 76      |      |
| Tensile Strength                                      | D1414                           | psi               | 3009    |      |
| Elongation  | D1414                           | %                 | 183     |      |
| Modulus @ 100% Elongation                             | D1414                           | psi               | 1133    |      |
| Modulus @ 50% Elongation                              | D1414                           | psi               | 410     |      |
| <b>Compression Set</b>                                |                                 |                   |         |      |
| 22 Hours @ 392°F (200°C), in Air, @ 25% deflection    | D1414                           | % of Original Def | 23      |      |
| 70 Hours @ 400°F (204°C) in Air @ 25% deflection      | D1414                           | % of Original Def | 27      |      |
| 22 Hours @ 392°F (200°C) in Air @ 25% deflection      | D395                            | % of Original Def | 8       |      |
| <b>Coefficient of Thermal Expansion (CTE)</b>         |                                 |                   |         |      |
| 20 to 120°C   | E831                            | µm/(m.°C)         | 302     |      |
| 120 to 220°C  | E831                            | µm/(m.°C)         | 349     |      |
| <b>Fluid Aging</b>                                    |                                 |                   |         |      |
| 70 hours @<br>347°F (175°C) in<br>Mobil Jet Oil II    | Hardness Change, Type A, Button | D471              | Points  | -1   |
|   | Tensile Strength                | D471              | %       | 3.3  |
|   | Elongation                      | D471              | %       | 6.6  |
|   | Volume Change                   | D471              | %       | 0    |
| 70 hours @ Room<br>Temperature in ASTM<br>Ref. Fuel B | Hardness Change, Type A, Button | D471              | Points  | -1   |
|   | Tensile Strength                | D471              | %       | 2.3  |
|   | Elongation                      | D471              | %       | 3.5  |
|   | Volume Change                   | D471              | %       | 0    |
| 70 hours @ 250°F<br>(121°C) in Distilled<br>Water     | Hardness Change, Type A, Button | D471              | Points  | 0    |
|   | Tensile Strength                | D471              | %       | -5.2 |
|   | Elongation                      | D471              | %       | 5.5  |
|   | Volume Change                   | D471              | %       | 1    |



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|-----------------------------------|----------------------|---|----------------|

| Description  |                                 | ASTM Method | Unit   | Typical |
|--|---------------------------------|-------------|--------|---------|
| <b>Fluid Aging</b>   |                                 |             |        |         |
| 70 hours @ 250°F<br>(121°C) in Steam                           | Hardness Change, Type A, Button | D471        | Points | -1      |
|  | Tensile Strength                | D471        | %      | -8.8    |
|  | Elongation                      | D471        | %      | 2.9     |
|  | Volume Change                   | D471        | %      | 1       |
| 168 hours @ 250°F<br>(121°C) in Reagent<br>Grade Sulfuric Acid | Hardness Change, Type A, Button | D471        | Points | -4      |
|  | Tensile Strength                | D471        | %      | 2.5     |
|  | Elongation                      | D471        | %      | -0.2    |
|  | Volume Change                   | D471        | %      | 9       |
| 168 hours @<br>302°F (150°C) in<br>Diglycolamine               | Hardness Change, Type A, Button | D471        | Points | -2      |
|  | Tensile Strength                | D471        | %      | -1      |
|  | Elongation                      | D471        | %      | 31      |
|  | Volume Change                   | D471        | %      | 6       |
| <b>Outgassing</b>  |                                 |             |        |         |
| Outgassing @ 212°F<br>(100°C)                                  | Low Boilers C7 - C10            | TD-GC-MS    | ppmw   | 0       |
|  | Medium Boilers >C10 - C20       | TD-GC-MS    | ppmw   | 0       |
|  | High Boilers >C20               | TD-GC-MS    | ppmw   | 0       |
|  | Sum >=C7                        | TD-GC-MS    | ppmw   | 0       |
| Outgassing @ 392°F<br>(200°C)                                  | Low Boilers C7 - C10            | TD-GC-MS    | ppmw   | 0.7     |
|  | Medium Boilers >C10 - C20       | TD-GC-MS    | ppmw   | 6.2     |
|  | High Boilers >C20               | TD-GC-MS    | ppmw   | 1.2     |
|  | Sum >=C7                        | TD-GC-MS    | ppmw   | 8.1     |
| <b>Notes</b>   |                                 |             |        |         |
| Unless otherwise noted, all tests performed on -214 O-rings.   |                                 |             |        |         |

### Greene Tweed

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