



MATERIAL REPORT



CONTACT US

REPORT NUMBER:
DATE: 02/24/97

TITLE: Comparison of Parker Compound V1238-95 to a competitive compound for explosive decompression resistance and to V0858-95 for extrusion resistance.

PURPOSE: To provide comparative data.

CONCLUSION: Compound V1238-95 exhibits superior ED resistance to the competitive compound and is a suitable replacement for V0858-95 for extrusion resistance.

Recommended temperature limits: -15⁰F to 400⁰F

Recommended For

Explosive decompression and extrusion resistance
Petroleum, mineral, and vegetable oils
Silicone fluids
Aromatic hydrocarbons (benzene, toluene)
Chlorinated hydrocarbons
High vacuum
Ozone, weather, and aging resistance

Not Recommended For

Hot water and steam
Auto and aircraft brake fluids
Amines
Ketones
Low molecular weight esters and ethers



REPORT DATA

Report Number:

| Explosive Decompression Test Conditions | V1238-95 2-227 O-Rings | Competitor 2-227 O-Rings |
|---------------------------------------------------------|-------------------------------|---------------------------------|
| <u>Basic Physical Properties</u> | | |
| Hardness, Shore A | 94 | |
| Tensile Strength, psi | 2610 | |
| Elongation, % | 70 | |
| 50% Modulus, psi | 1710 | |
| Compression set (70 HRS @ 392°F), % | 23.5 | |
| <u>75°F, 1000 ml CO₂, 820 psig, 120 HRS</u> | | |
| Hardness Change, Shore M, pts | -3 | -10 |
| Volume Change, % | +24 | +29 |
| Weight Change, % | +9 | +4 |
| Tensile Strength Change, % | -57 | -45 |
| Elongation Change, % | -12 | +21 |
| 50% Modulus Change, % | -53 | -58 |
| 20 Second decay (820 to 0 psig) | Excellent, low swell, | Good, medium swell, |
| Visual appearance | no damage | no damage |
| <u>250°F, 1000 ml CO₂, 1000 psig, 72 HRS</u> | | |
| Hardness Change, Shore M, pts | -2 | -3 |
| Volume Change, % | +3 | +2 |
| Weight Change, % | +2 | +1 |
| Tensile Strength Change, % | -36 | -29 |
| Elongation Change, % | -13 | -76 |
| 50% Modulus Change, % | -34 | -30 |
| 20 Second decay (820 to 0 psig) | Excellent, low swell, | Fair, O-Ring had |
| Visual appearance | no damage | two splits |
| <u>75°F, 1000 ml CO₂, 1000 psig, 72 HRS</u> | | |
| Hardness Change, Shore M, pts | -3 | -4 |
| Volume Change, % | +3 | +2 |
| Weight Change, % | +2 | +1 |
| Tensile Strength Change, % | -59 | -16 |
| Elongation Change, % | -32 | +13 |
| 50% Modulus Change, % | -41 | -33 |
| 20 Second decay (820 to 0 psig) | Good, low swell, | Fair, O-Ring had |
| Visual appearance | no damage | two splits |
| Extrusion Test Conditions | V1238-95 2-227 O-Rings | V0858-95 2-227 O-rings |
| <u>Basic Physical Properties</u> | | |
| Hardness, Shore A | 94 | |
| Tensile Strength, psi | 2402 | |
| Elongation, % | 75 | |
| 50% Modulus, psi | 1632 | |
| Compression Set (70 HRS @ 392°F) | 20.6% | 17.0% |



Compound Data Sheet
Parker O-Ring Division United States

| | | |
|----------------------------------------------------|-----------------|------------------|
| PI Extrusion Test, 302 ⁰ F, 0.0626" gap | | |
| Failure pressure, psi | 510 | 308 |
| Visual appearance or degradation | Light extrusion | Severe extrusion |

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