

# PROPERTIES OF BAL™ SEAL MATERIALS IN RADIATION

Technical Report  
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BAL™ Seal Material	Radiation Level	Maximum Operating Temperatures	Hardness	Tensile Strength at 70°F	Elongation
				PSI (kg/cm <sup>2</sup> )	(%)
Fluoropolymer (FP)	2 X 10 <sup>8</sup> rad	280°F (138°C)	Shore D-75	3,650 (257)	300
Polyethylene (UP)	9 X 10 <sup>7</sup> rad	250°F 121°C)	Shore D-61	7,400 (520)	330
PTFE (Not suitable for radiation service. See note below.)	5 X 10 <sup>4</sup> rad	550°F (288°C)	Shore D-60	4,350 (305)	350

**Note:** PTFE in a nuclear environment degrades very rapidly. Its starting tensile strength of 4,350 psi drops to 2,175 psi when subjected to a radiation of 1 X 10<sup>6</sup> rads.

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