

SECA Core Technology Task Force on Sealing Rating of Sealing Concepts

Sealing Concepts	Leak Tightness	Stability - Mechanical	Stability - Chemical	Manufacturability	Cyclic Ability	Affordability	Rating	Technology Readiness E/D/R
Particle Reinforced Glasses	7.0	5.9	5.8	7.2	4.6	7.2	37.7	D
Impreganted Materials Felt/Fabric	6.0	6.6	5.6	6.5	5.9	5.5	36.1	R-D
Micro-Crack Toughened Glasses	6.6	5.2	6.2	6.7	4.4	6.8	35.9	D
Organo-precursors	7.4	5.9	5.3	6.8	4.2	5.4	34.9	R-D
ZR O-ring	3.8	6.7	7.8	5.1	6.2	4.6	34.2	R-D
Porous-Dense Reservoir Wet Seal	6.1	5.6	4.1	5.6	6.5	6.1	33.9	R-D
Glass Coated Bellows	7.0	6.5	6.0	4.2	6.3	3.3	33.3	R-D
Multi-Layered/ Graded Materials	6.4	6.8	5.1	4.2	6.3	4.4	33.2	R-D
Self-Healing Materials	6.4	6.4	4.9	4.0	6.8	4.7	33.2	R
Chemical Mods to Mica	4.8	5.4	5.9	5.0	5.6	5.5	32.3	R-D
Engineered Materials	6.0	5.6	5.4	4.3	5.4	4.5	31.3	R-D
Multi-Functional Layered Structures	6.2	6.2	5.6	3.9	5.1	3.4	30.4	R
Shape Memory Materials	5.0	5.0	5.1	5.0	6.0	3.7	29.8	R
Compliance w/Rigid Tubes	4.1	5.8	5.8	4.1	5.3	4.1	29.1	R-D
Hi-Temp RTV	7.4	6.4	4.1	3.1	5.2	2.6	28.8	R
Adaptive Materials	6.3	4.6	4.0	2.9	5.0	3.5	26.4	R
Nano Ceramic Spring	4.5	5.3	6.3	2.8	5.5	2.0	26.4	R
Piezo Electric Materials	3.8	5.2	4.0	4.2	5.0	3.4	25.6	R
MEMS	4.5	5.3	4.5	3.1	5.4	2.3	25.1	R
Magneto-Elastic Materials	3.8	4.5	4.7	4.0	5.0	2.8	24.7	R
Electro-Rheologic Materials	4.6	5.0	3.2	3.4	4.4	3.4	24.1	R
Magneto-Restrictive Materials	3.1	2.3	1.8	1.7	1.9	1.6	12.5	R