

Parker Chomerics Low Nasa Outgassing Products

Many specifications require that nonmetallic components be virtually free of volatile residues which might outgas in the hard vacuum environment of space. The standard test method for determining outgassing behavior is ASTM E595, which provides for measurement of total mass loss (TML) and collected volatile condensable materials (CVCM) in a vacuum environment.

Data for a number of Parker Chomerics conductive elastomers, based on ASTM E595 testing done by NASA Goddard Spaceflight Center, is presented below.

The normal specification limits or guide-lines on outgassing for NASA applications are 1% TML max., and 0.1% CVCM max. For further information, please visit <https://outgassing.nasa.gov>.

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Product Name	Description	% TML	% CVCM	Cure Time	Cure Temp °C	Atmosphere	% Water Vapor Released	Data Ref.
CHO-SEAL 1212	SILVER COPPER FILLED SILICONE (125 GRADE)	0.07	0.02	24 Hours	177	Air	0.00	GSC15576
		0.08	0.02	15 Minutes	171	Air	None	GSFC3245
CHO-SEAL 1215	SILVER COPPER FILLED SILICONE	0.39	0.08	None	None	None	None	GSFC2029
	SILVER COPPER FILLED SILICONE (LOT #2L1215-001)	0.32	0.03	None	None	None	0.03	GSC28600
	SILVER COPPER FILLED SILICONE (125 GRADE)	0.06	0.01	24 Hours	177	Air	0.00	GSC15579
		0.06	0.02	15 Minutes	171	Air	None	GSFC3201
		0.46	0.07	15 Minutes	171	Air	None	GSFC3203
CHO-SEAL 1217	SILVER COPPER FILLED FLUOROSILICONE (125 GRADE)	0.45	0.01	None	None	None	0.00	GSC15231
		0.29	0.01	15 Minutes	171	Air	None	GSFC3163
		0.03	0.00	15 Minutes	171	Air	None	GSFC3165
CHO-SEAL 1221	SILVER FILLED FLUOROSILICONE	0.35	0.02	None	None	None	0.01	GSC15249
	SILVER FILLED FLUOROSILICONE (AEROSPACE 200)	0.3	0.00	15 Minutes	171	Air	None	GSFC3101
		0.05	0.00	15 Minutes	171	Air	None	GSFC3103
CHO-SEAL 1224	SILVER FILLED SILICONE AEROSPACE 200	0.07	0.04	24 Hours	177	Air	0.00	GSC15582
		0.43	0.06	15 Minutes	171	Air	None	GSFC3105
		0.04	0.02	15 Minutes	171	Air	None	GSFC3107
CHO-SEAL 1239	COPPER MESH FILLED SILICONE	0.24	0.03	None	None	None	None	NuSil*
CHO-SEAL 1250	SILVER FILLED SILICONE	0.15	0.07	None	None	None	0.00	GSC15237
		0.28	0.09	None	None	None	0.01	GSFC8864
CHO-SEAL 1285	SILVER ALUMINUM FILLED SILICONE	0.12	0.05	24 Hours	177	Air	0.05	GSC12556
		0.62	0.09	None	None	None	0.27	GSC15251
		0.12	0.01	24 Hours	177	Air	0.06	GSC15585
		0.11	0.03	24 Hours	177	Air	0.05	GSC24485

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CHO-SEAL 1287	SILVER ALUMINUM FILLED FLUOROSILICONE	0.63	0.03	None	None	None	0.30	GSC15165
CHO-SEAL 1298	SILVER ALUMINUM FILLED FLUOROSILICONE	0.12	0.02	None	None	None	0.04	GSC28381
CHO-SIL 1401	SILVER FILLED SILICONE	0.05	0.02	24 Hours	177	Air	N/A	GSFC3706
CHO-SEAL 6502	NICKEL ALUMINUM FILLED SILICONE W/ PSA	0.62	0.14	None	None	None	None	NuSil*
CHO-SEAL 6502	NICKEL ALUMINUM FILLED SILICONE	0.60	0.15	None	None	None	None	NuSil*
CHO-SEAL 6503	NICKEL ALUMINUM FILLED FLUOROSILICONE	0.52	0.04	None	None	None	0.07	NuSil *
CHO-SEAL S6305E	NICKEL GRAPHITE FILLED SILICONE	0.15	0.09	15 Minutes	177	Air	0.02	GSC23961
SILICONE SPONGE RUBBER	R10470M RED	0.04	0.01	72 Hours	150	Air	0.02	GSC22696
CHO-MUTE 9002	FERROUS SILICONE	0.12	0.04	None	None	None	None	NuSil*
CHO-MUTE 9025	FERROUS SILICONE	0.10	0.04	None	None	None	None	NuSil*
CHO-THERM 1671	THERM COND SHEET LOT ZB414 WHITE SILICONE	0.32	0.08	None	None	None	0.03	GSC13957
		0.08	0.04	24 Hours	150	E-2	0.01	GSC30280
		0.04	0.01	24 Hours	175	E-2	0.01	GSC30283
		0.04	0.01	24 Hours	175	Air	0.01	GSFC9656
	THERM COND SHEET WHITE SILICONE	0.76	0.07	None	None	None	0.00	GSC11099
		0.10	0.05	24 Hours	175	Air	0.01	GSC11246
		0.17	0.06	None	None	None	0.01	GSC23496
		0.23	0.07	None	None	None	0.01	GSC22822
		0.03	0.01	18 Hours	200	Air	0.01	GSC22534
		0.06	0.05	18 Hours	150	Air	0.01	GSC22537
CHO-THERM 1674	THERM COND SHEET BLUE SILICONE	0.12	0.01	24 Hours	175	Air	0.03	GSC11372
THERM-A-FORM T646	SILICONE AS 1/1 BW	0.39	0.06	2D	60	Air	0.01	GSC26707
THERM-A-GAP G574	WHITE SILICONE FIBER RENIF/W CERAMIC FILLER	0.07	0.00	24 Hours	125	Air	0.01	GSC28402
THERM-A-GAP G579	THERMALLY COND PAD P/N 61-02-0404-G579	0.15	0.07	None	None	None	0.00	GSC32236
THERMATTACH T-404	AL TAPE W ACRYLIC ADH 2-SIDES	0.56	0.02	None	None	None	0.18	GSC20671

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THERMATTACH T-405	AL TAPE W ACRYLIC ADH 2-SIDES	0.25	0.01	None	None	None	0.07	GSC24777
THERMATTACH T-412	AL TAPE W ACRYLIC ADH 2-SIDES	0.14	0.00	None	None	None	0.05	GSC24774
CHO-THERM T444	THERMALLY CONDUCTIVE, NON-SILICONE CONDUCTOR	0.53	0.00	None	None	None	0.35	GSC33106
CHO-BOND 1038	SILVER COPPER SILICONE RTV	0.93	0.56	48 Hours	25	Air	0.00	GSC14632
CHO-BOND 360-208	2-PART SILVER EPOXY	0.66	0.06	24 Hours	25	Air	0.08	GSFC9683
TECKNIT 72-00002	SILVER SILICONE RTV	0.60	0.21	24 Hours	25	Air	N/A	GSFC4756
		0.02	0.00	48 Hours	121	E-5	N/A	GSFC4758
TECKNIT 72-00005	SILVER FILLED POLYOLEFIN	0.21	0.02	7 Days	25	Air	0.03	GSC14638
CHO FOIL CCH (101)	COPPER FOIL/COND ACRYLIC	0.11	0.02	None	None	None	0.03	GSC28354
CHO FOIL CCJ (201)	ALUMINUM FOIL/COND ACRYLIC	0.17	0.02	None	None	None	0.06	GSC28357
CHO FOIL CCH (301)	COPPER FOIL/NON COND ADH/FABRIC	0.11	0.01	None	None	None	0.03	GSC16907
CHO-FOIL CCE	EMBOSED CU EMI SHIELDING TAPE	0.09	0.00	None	None	None	0.03	GSC29161
MESH COMBO STRIP	GRAY SILICONE	0.24	0.05	24 Hours	163	Air	0.07	GSC18468
CHO-SHRINK 1061	COPPER COND INNER SURFACE	0.56	0.03	None	None	None	0.05	GSC16319
CHO-SHRINK 1120	SILVER COND INNER SURFACE	0.61	0.06	5M	121	Air	N/AAS	GSFC4606

*Product was tested by NuSil, inquire futher for more information.

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