



IJ Research, Inc.

ISO 9001:2000 registered. Established in 1988.

GLASS PROPERTIES

IJ Research is one of the few companies who have a glass formulation technology per customer's specification.

This is one of the specialties that IJ Research proudly offers to customers.

- **Compression seal**
- **Devitrifying glass seal**
- **Match seal**
- **IJ Research glass/ceramic seal and seals**

IJ Research Glass Code	Coefficient of Thermal Expansion 10⁻⁷/°C	Softening Temperature °C	Sealing Temperature °C	Dielectric Constant 1 MHz, 20°C
1033	95	585	900	6.4
1034	34	380	420	—
1035	95	565	695	—
1039	49	—	460	—
1040	70	380	485	16.0
1046	46	590	700	—
1047	90	345	420	—
1048	89	—	445	—
1049	36	660	700	—
1050	30	650	700	—
1051	89	—	445	—
1052	36	610	720	—
1053	89	365	445	18.0
1054	98	850	1200	—
1057	110	480	600	9.5
1058	110	350	450- 500	—
1061	92	850	1200	—
1062	88	710	1000	—
1063	87	660	1000	—
1064	92	900	1100	—
1065	28	852	1000	—
1066	69	925	1300	—
1067	77	690	1200	—
1068	87	660	1000	—
1069	188	450	600	9.3
1069A	178	500	650	9.5
1070	92	390	470	—
1071	92	650	1000	—
1073	152	480	650	7.9
1074	149	500	600	8.0
1075	127	540	600	8.0

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IJ Research Glass Code	Coefficient of Thermal Expansion $10^{-7}/^{\circ}\text{C}$	Softening Temperature $^{\circ}\text{C}$	Sealing Temperature $^{\circ}\text{C}$	Dielectric Constant 1 MHz, 20°C
1076	94	696	950	7.2
1077	90	630	900-950	6.7
1078	89	656	900-950	6.3
1079	37	615	750	—
1080	91	578	850	9.1
1083	55	740	1050	5.0
1084	80	656	965	7.0
1085	89	965	646	6.3
1086	178	500	650	9.3
1087	8	350	600	—
1088	64	400	450	—
1089	47	715	1120	4.8
1090	170	450	600	9.5
1094	68	380	520	—
1095	170	450	600	—
1096	170	450	600	—
1097	170	450	600	—
1099	110	—	850	—
1100	76	—	85-	—
1111	170	450	600	9.5
1112	165	450	600	8.5
1113	165	450	600	8.5
1114	70	600	900	—
1115	70	600	900	—
1117	88	700	850	8.5
1118	73	560	687	6.7
1122	76	—	990	—
1123	117	700	850	8.5



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