



Description: Ferro's low temperature Pb-based glasses are produced with a wide range of thermal expansion, firing temperatures and flow properties to meet a variety of applications. This includes hermetic sealing, encapsulation and

coating of metal, ceramic and glass substrates and components, as well as use as binding agents for metal and ceramic pastes.

Vitreous Low Temperature Pb-based Glasses

	CF 1417	CF 7570	CF 7555	CF 8463	IP 550	IP 530	IP 510	EG 2760	EG 2783
Composition Family	Pb-B-Al	Pb-B-Al-Si	Pb-B-Zn	Pb-B-Si	Pb-Si-B-Al	Pb-Si-B-Al	Pb-Si-B-Al	Pb-B-Zn	Pb-B
Peak Fire Temp (°C)	487	470	450	425	585	540	500	380	360
Time @ Peak Temp (mins)	15	25	15	15	10	10	10	10	15
CTE @ 260°C	87	84.5	87	102	65	80	98	113.5	120
CTE @ Set Pt	95	95.9	100	114	74.4	94	109	119	133
Softening Point	427	447	415	388	551	498	425	350	342
Ta	375	395	385	334	470	433	375	325	315
Tg	365	385	366	321	453	417	360	315	305
DEN	5.6	5.42	5.7	6.22	4.44	5.21	6.1	6.55	6.7
Typical Powder Form	VSD	VSD, VSD3	VSD, TF	VSD, VWG	RWG	RWG	RWG	MVG, VEG	MVG
Typical Application	Ferrite sealing	Ti, Dumet sealing	Ferrites	Ferrites	Metal & Ceramic Binding Agent	Metal & Ceramic Binding Agent	Metal & Ceramic Binding Agent	Metal & Ceramic Binding Agent	Metal & Ceramic Binding Agent

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* Softening Point of base glass

Vitreous Composite Low Temperature Pb-based Glasses

	EG 2805	EG 2000	EG 2004	EG 2012	EG 2018	EG 2020
Composition Family	Pb-B-Zn, Composite	Pb-B-Zn, Composite	Pb-B-Zn, Composite	Pb-B-Zn, Composite	Pb-B-Zn, Composite	Pb-B-Zn, Composite
Peak Fire Temp (°C)	575	500	425	425	430	390
Time @ Peak Temp (mins)	10	10	10	15	10	10
CTE @ 260°C	33	48	66.5	74	78	84
CTE @ Set Pt	40	51.8	70	76.9	83	93.8
Softening Point	*350	*350	*350	*350	*350	*350
Ta	460	395	350	333	325	317
Tg	440	378	295	323	310	309
DEN	4.15	4.33	5.2	5.4	6.85	5.83
Typical Powder Form	VEG	VEG	VEG	VEG	VEG	VEG
Typical Application	Pyrex, SC Sealing	Kovar Sealing	Alumina, ZnO Sealing	BeO, Sapphire Sealing	Soda Lime Sealing	Steatite Sealing

Crystallizing Low Temperature Pb-based Glasses

	CF 7578	CF 7586	CF 7572	EG 2928	CF 7575
Composition Family	Pb-Zn-B	Pb-Zn-B-Si	Pb-Zn-B	Pb-Zn-B	Pb-Zn-B, Composite
Peak Fire Temp (°C)	530	600	450	500	450
Time @ Peak Temp (mins)	60	30	60	15	60
CTE @ 260°C	73	66.5	97	66.5	83
CTE @ Set Pt	63.5	76.5	95	60	91.1
Softening Point	445	513	370	470	*370
Ta	350	430	313	430	300
Tg	329	413	310	415	285
DEN	5.78	5.04	6.35	5.31	6.2
Typical Powder Form	VSD	TF	VSD, TF	VEG, MVG	VSD, TF
Typical Application	Fiber Optic Sealing	Alumina, Sapphire Sealing	Macor Sealing	Alumina, ZnO Glaze & Sealing	Dumet, Soda Lime Sealing

* Softening Point of base glass

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