



Physical Constants of Saint-Gobain Crystals Plastic Scintillators

Scintillator	Light Output % Anthracene ¹	Wavelength of Maximum Emission, nm	Decay Constant, ns	Bulk Light Attenuation Length, cm	Refractive Index	H:C Ratio	Loading Element % by weight	Density [g/cc]	Softening Point °C
BC-400	65	423	2.4	250	1.58	1.103		1.023	70
BC-404	68	408	1.8	160	1.58	1.107		1.023	70
BC-408	64	425	2.1	380	1.58	1.104		1.023	70
BC-412	60	434	3.3	400	1.58	1.104		1.023	70
BC-416	38	434	4.0	400	1.58	1.110		1.023	70
BC-418	67	391	1.4	100	1.58	1.100		1.023	70
BC-420	64	391	1.5	110	1.58	1.102		1.023	70
BC-422	55	370	1.6	8	1.58	1.102		1.023	70
BC-422Q	11	370	0.7	<8	1.58	1.102	Benzophenone,0.5%*	1.023	70
BC-428	36	480	12.5	150	1.58	1.103		1.023	70
BC-430	45	580	16.8	NA	1.58	1.108		1.023	70
BC-440	60	434	3.3	400	1.58	1.104		1.023	99
BC-440M	60	434	3.3	380	1.58	1.104		1.023	100
BC-444	41	428	285	180	1.58	1.109		1.023	70
BC-452	48	424	2.1	150	1.58	1.134	Lead,2%	1.050	60
BC-480	**	425	-	400	1.58	1.100		1.023	70
BC-482A	QE=.86	494	12.0	300	1.58	1.110		1.023	70
BC-490	55	425	2.3	NA	1.58	1.107		1.023	70
BC-498	65	423	2.4	NA	1.58	1.103		1.023	70

¹ Anthracene light output = 40-50% of NaI(Tl) * 0.1 to 5 weight % also available ** Ratio of Cerenkov light to scintillator light = 10:1

Physical Constants of Saint-Gobain Crystals Liquid Scintillators

Scintillator	Light Output % Anthracene ¹	Wavelength of Maximum Emission, nm	Decay Constant, ns	H:C Ratio	Loading Element	Density	Flash Point °C
BC-501A	78	425	3.2 ¹	1.212		0.87	26
BC-505	80	425	2.5	1.331		0.877	48
BC-517L	39	425	2	2.01		0.86	102
BC-517H	52	425	2	1.89		0.86	81
BC-517P	28	425	2.2	2.05		0.85	115
BC-517S	66	425	2	1.70		0.87	53
BC-519	60	425	4	1.73		0.87	63
BC-521	60	425	4	1.31	Gd (to 1%)	0.89	44
BC-523	65	425	3.7	1.74	Nat. ¹⁰ B (5%)	0.916	-8
BC-523A	65	425	3.7	1.67	Enr. ¹⁰ B (5%)	0.916	-8
BC-525	55	425	3.8	1.56	Gd (to 1%)	0.88	91
BC-533	51	425	3	1.96		0.80	65

* Anthracene light output = 40-50% of NaI(Tl) ¹ Fast component; mean decay times of first 3 components = 3.16, 32.3 and 270 ns

The data presented are believed to be correct but are not guaranteed to be so. Nothing herein shall be construed as suggesting the use of our product in violation of any laws, regulations, or rights of third parties. User should evaluate suitability and safety of product for user's application. We cannot assume liability for results that user obtains with our products since conditions of use are not under our control.