

# 7. Tin Base

Blocks/Discs

7.1 Tin with Impurities																	Size (mm)		
	Sb	As	Bi	Pb	Cu	Fe	Ni	Al	Cd	Zn	In	Te	Ag	Au	Co	S	Sn	Ø	H
CRM 71 X SR0A	0.019	<0.001	0.014	0.034	0.0020	(0.001)	0.0025	0.014	0.0013	0.007	0.0095	...	0.0025	<0.0005	...	0.0008	...	40 x 15	c
CRM 71 X SR1D	0.013	0.003	0.010	0.030	0.009	0.0017	...	...	0.007	0.007	0.014	0.003	0.009	0.003	...	...	...	40 x 15	
CRM 71 X SR2D	0.057	0.041	0.056	0.127	0.054	0.002	0.0096	0.002	0.041	0.015	0.049	0.022	0.025	0.008	...	...	...	40 x 15	
CRM 71 X SR3E	0.145	0.061	0.105	0.29	0.101	0.003	0.0009	...	0.022	0.014	0.028	0.008	0.007	0.003	...	...	...	40 x 15	
71 A 192g	0.0007	...	0.00003	0.0007	0.00007	0.0002	<0.0001	...	...	0.00006	...	...	...	...	...	...	99.997	300g block	c
																		<b>W D H</b>	
CRM 71 B 1727	(0.004)	<0.01	...	0.00333	...	(0.002)	...	...	...	...	(0.002)	...	...	...	...	...	...	30 x 30 x 30	
																		<b>Ø H</b>	
71 MF NF54-1	0.0065	0.0105	0.0026	0.023	0.0107	0.003	0.0018	(0.0003)	0.0003	...	0.0053	...	0.006	...	(0.002)	...	...	37 x 12	c
71 MF NF54-2	0.011	0.082	0.0046	0.148	0.047	0.014	0.0033	(0.008)	0.0006	...	0.013	...	0.010	...	0.002	...	...	37 x 12	
71 MF NF54-3	0.020	0.13	0.010	0.41	0.15	(0.018)	0.012	(0.018)	0.0009	(0.001)	0.02	...	0.032	...	0.008	...	...	37 x 12	
71 MF NF54-4	0.045	0.27	0.022	0.72	0.29	(0.023)	0.024	...	0.005	...	0.043	...	0.063	...	0.02	...	...	37 x 12	
71 MF NF54-5	0.095	0.47	0.038	1.0	0.52	...	...	...	0.01	(0.016)	0.098	...	0.10	...	...	...	...	37 x 12	

  

7.2 Tin/Antimony																	Size (mm)		
	Sb	As	Bi	Pb	Cu	Fe	Cd	Zn										Ø	H
72 X SA4RB	4.0	0.03	0.10	0.08	0.02	0.10	0.003	0.007										40 x 15	c
72 X SA5RB	5.0	0.02	0.005	0.025	0.005	0.003	0.02	0.001	A set of Sn/Sb binaries is also available, with certified levels of Sb in the range from 1% to 12%. Please enquire for details.									40 x 15	
72 X SA6RB	6.0	0.05	0.25	0.25	0.10	0.05	0.01	0.02										40 x 15	

  

7.3 Tin White Metals (Pewter/Babbitt)																	Size (mm)	
	Sb	As	Bi	Pb	Cu	Fe	Ni	Al	Cd	Zn	In	Ag	Co	S				
CRM 73 X SC1A	1.48	0.008	0.084	0.067	2.02	0.0025	0.0041	0.0025	0.006	0.003	0.008	0.010	<0.001	<0.002	40 x 15 c			
CRM 73 X SC2A	3.07	0.035	0.62	0.029	1.06	0.030	0.0048	(0.002)	0.036	0.003	(0.002)	0.006	0.021	<0.001	40 x 15			
CRM 73 X SC3A	4.60	0.029	0.020	0.040	0.222	0.017	0.0136	0.001	0.024	0.0014	0.031	0.013	0.006	(0.002)	40 x 15			
CRM 73 X SC4A	6.02	0.005	0.218	0.514	3.05	0.011	0.017	0.005	0.052	0.008	0.011	0.042	0.0035	(0.003)	40 x 15			
CRM 73 X SC5A	7.03	0.013	0.43	0.136	0.57	0.004	0.0058	0.003	0.008	0.001	0.036	0.063	0.011	(0.001)	40 x 15			
CRM 73 X SC6A	0.092	0.204	0.115	0.100	5.17	0.007	0.013	(0.003)	0.0125	0.01	0.058	0.08	0.0050	(0.004)	40 x 15			
CRM 73 X SC7A	14.01	0.047	0.009	0.356	6.51	0.046	0.008	0.001	0.0018	(0.003)	0.014	0.006	0.0160	<0.001	40 x 15			
CRM 73 X SC8A	9.65	0.121	0.037	0.037	3.89	0.073	0.014	0.004	0.133	(0.008)	0.017	(0.0015)	0.017	(0.011)	40 x 15			
CRM 73 X SC9A	8.18	0.53	0.066	0.20	8.47	0.037	0.008	<0.001	0.078	(0.003)	0.010	0.004	0.0030	(0.008)	40 x 15			
CRM 73 X SC11A	11.63	0.31	0.537	0.040	10.54	0.072	0.49	<0.002	1.63	0.065	...	0.060	...	...	40 x 15			
CRM 73 X SC12A	8.05	0.024	0.020	0.024	7.72	0.051	0.384	<0.002	0.625	0.020	...	0.83	...	...	40 x 15			
CRM 73 PN LA1	6.79	0.012	0.014	3.18	2.45	0.012	0.011	...	1.41	0.0016	...	...	...	...	40 x 25 each			
CRM 73 PN LA2	7.81	0.092	0.033	2.17	3.84	0.018	0.094	...	0.88	...	...	...	...	...	each			
CRM 73 PN LA3	10.22	0.24	0.059	1.19	8.13	0.059	0.28	...	0.50	0.0095	...	...	...	...	Set Only			
CRM 73 PN LA4	11.66	0.43	0.085	0.41	6.35	0.080	0.45	...	0.096	...	...	...	...	...	Set Only			
CRM 73 PN LA5	13.58	0.54	0.099	0.070	5.45	0.096	0.53	...	0.011	0.020	...	...	...	...	Set Only			

  

7.4 Tin-base (Lead-Free) Solders																	Size (mm)	
	Cu	Ag	Pb	Sb	Bi	Zn	Ni	Fe	As	Cd	Se	Au	Al	Sn				
CRM 74 X E A	3.00	0.744	0.0262	0.028	0.0097	<0.001	0.011	0.052	0.088	0.0022	0.0025	...	...	rem	40 x 15 c			
CRM 74 X HN A	3.98	0.156	0.082	0.0256	0.141	0.0011	0.0083	0.028	0.0009	0.0045	0.0057	...	...	(95.6)	40 x 15			
CRM 74 X TC A	4.88	0.013	0.183	0.056	0.040	0.011	0.0134	0.062	0.016	0.0112	0.069	...	...	(94.6)	40 x 15			
CRM 74 X AM A	3.00	0.55	0.174	1.05	0.196	0.0024	0.028	0.054	0.064	0.0065	...	...	...	rem	40 x 15 c			
CRM 74 X HA A	0.604	2.69	0.025	1.98	0.057	2.59	0.016	0.052	0.0076	0.0025	...	...	...	rem	40 x 15			
CRM 74 X HB A	4.76	0.069	0.059	4.97	0.0087	0.018	1.10	0.116	0.027	0.0106	...	...	...	rem	40 x 15			
CRM 74 X CA1A	0.696	0.406	0.077	0.016	0.013	...	...	...	...	...	...	0.0069	0.0101	...	40 x 15 c			
CRM 74 X CA3A	0.055	3.11	0.036	0.027	0.017	...	...	...	...	...	...	0.0100	<0.001	...	40 x 15			
74 MF NF46-3X	0.19	3.1	0.043	0.205	0.05	...	...	...	...	...	...	(0.015)	...	...	37 x 12 c			
74 MF NF46-4X	0.096	4.1	0.059	0.11	0.095	...	...	...	...	...	...	(0.007)	...	...	37 x 12			
74 MF NF46-5X	0.030	5.0	0.21	0.059	0.25	...	...	...	...	...	...	(0.017)	...	...	37 x 12			

# 8. Lead Base

Blocks/Discs

8.1 Binaries, Lead-Antimony, Lead-Arsenic																	Size (mm)	
	Sb	As															Ø	H
CRM 81 X PA0.5C	0.481	...															40 x 15	c
CRM 81 X PA1.0C	0.989	...															40 x 15	
CRM 81 X PA2.0D	1.996	...															40 x 15	
CRM 81 X PA3.5D	3.53	...															40 x 15	
CRM 81 X PA7.0D	7.02	...															40 x 15	
CRM 81 X PA10.0C	9.60	...															40 x 15	
CRM 81 X PA12.5D	12.72	...															40 x 15	
81 X PA5.1A	...	1.25															40 x 15	c

# 8. Lead Base

Blocks/Discs

8.2 Lead/Silver		Sn	Sb	Bi	Cu	As	Ag	Zn	Cd	Fe	Al	In	Size (mm)									
													Ø	H								
CRM	82 X PAg 1.5R E	0.036	0.386	0.065	0.27	0.005	1.55	(0.004)	...	...	...	...	40 x 15		c							
CRM	82 X PAg 2.5R D	0.082	0.246	0.13	0.26	0.009	2.21	(0.0024)	...	...	...	...	40 x 15									
CRM	82 X PAg 3.5R D	0.25	0.106	0.290	0.073	0.020	3.54	(0.0004)	0.0027	<0.001	0.0015	0.037	40 x 15									
CRM	82 X PAg 6.0R A	0.50	0.48	0.52	0.18	0.021	5.93	0.007	0.010	<0.001	<0.001	0.008	40 x 15									
	82 MF NF32-30X	0.63	0.43	0.045	0.22	(0.005)	1.96	(0.001)	...	...	...	...	37 x 12		c							
	82 MF NF32-31X	1.04	0.24	0.10	0.067	0.016	1.57	(0.0025)	...	...	...	...	37 x 12									
	82 MF NF32-32X	1.25	0.11	0.30	0.52	0.023	0.55	(0.005)	...	...	...	...	37 x 12									
	82 MF NF34-4.5X	0.049	0.42	0.051	0.25	(0.005)	4.54	(0.001)	...	...	...	...	37 x 12		c							
	82 MF NF34-5.5X	0.081	0.28	0.10	0.14	(0.01)	5.43	(0.0025)	...	...	...	...	37 x 12									
	82 MF NF34-6.5X	0.19	0.11	0.22	0.81	(0.02)	6.65	(0.005)	...	...	...	...	37 x 12									
8.3 Lead with Impurities		Sn	Sb	Bi	Cu	As	Ag	Zn	Cd	Ni	Fe	Te	Al	In	Ca	Na	Se	Au	Size (mm)			
																			Ø	H		
	83 X PR1G	0.004	0.005	0.080	0.006	0.050	0.088	0.002	0.075	0.001	0.001	0.003	0.001	0.045	0.004	0.01	<0.002	0.008	0.008	40 x 15		c
CRM	83 X PR2E	0.095	0.053	0.0177	0.039	0.018	0.053	(0.0004)	0.0021	0.0010	<0.0005	0.0064	...	0.0015	(0.001)	...	0.004	(0.0011)	40 x 15			
CRM	83 X PR3E	0.048	0.09	0.193	0.057	(0.001)	0.003	0.0017	0.050	0.0024	<0.001	0.004	<0.001	0.002	0.001	(0.003)	(0.01)	(0.005)	40 x 15			
	83 X PR4F	0.009	0.012	0.014	0.015	(0.002)	0.014	0.005	0.010	0.013	<0.005	0.025	0.001	0.005	0.0026	0.001	0.003	0.002	40 x 15			
	83 X PR5B	<0.0002	<0.0001	0.0028	0.0007	(0.0001)	0.0005	<0.0001	0.00009	<0.0001	<0.0001	<0.0001	...	...	<0.0001	...	<0.0001	...	52 x 14			
CRM	83 X PR7A	0.21	0.84	0.50	0.22	0.049	0.30	0.002	0.49	0.005	(0.001)	0.002	(0.001)	0.077	(0.001)	0.004	(0.01)	(0.001)	40 x 15			
CRM	83 X PR8A	0.59	0.25	1.13	0.083	0.17	0.55	0.007	0.260	0.003	(0.001)	(0.002)	(0.001)	0.74	<0.002	0.019	(0.012)	(0.011)	40 x 15			
	83 MF NF44-A	<0.003	<0.003	0.00086	0.00088	0.00072	0.0013	0.0005	0.0021	0.00072	<0.005	...	...	<0.001	0.00037	...	...	...	37 x 12		c	
	83 MF NF44-B	0.0030	0.0054	0.0051	0.0058	0.0059	0.0050	...	0.00070	0.0036	<0.005	...	...	0.0014	...	...	...	...	37 x 12			
	83 MF NF44-C	0.059	0.018	0.021	0.016	0.015	0.015	...	0.016	0.0013	<0.005	...	...	0.0026	0.0009	...	...	...	37 x 12			
	83 MF NF44-D	0.13	0.059	0.053	0.027	0.055	0.033	...	0.036	...	...	...	...	0.021	...	...	...	...	37 x 12			
	83 MF NF44-E	0.56	0.60	0.49	0.042	0.53	0.19	0.0025	0.12	...	...	...	...	...	...	...	...	...	37 x 12			
	83 MF NF44-F	1.05	0.89	0.77	0.064	...	0.65	0.0015	0.53	...	...	...	...	0.30	...	...	...	...	37 x 12			
	83 X PBTE/2 B	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	...	...	<0.001	0.060	...	...	...	...	...	...	40 x 15		c	
		All Elements ppm											Size (mm)									
		Sn	Sb	Bi	Cu	As	Ag	Zn	Cd	Ni	Te	Ti	Se	W	D	H						
CRM	83 F 286 A	<0.05	0.10	21.5	1.49	<0.002	0.015	<0.1	0.125	0.041	<0.1	2.5	<0.05	60 x 60 x 12					c			
CRM	83 F 287 A	<0.05	0.040	67.3	0.98	<0.003	15.2	<0.1	0.36	0.024	<0.2	0.73	<0.05	60 x 60 x 12								
CRM	83 F 288 A	30.6	32.5	215.8	19.3	55.7	30.5	8.2	33.3	4.57	32.8	2.3	<0.2	60 x 60 x 12								
8.4 Lead/Tin/Calcium (Battery Alloys)		Sn	Sb	Bi	Cu	As	Ag	Zn	Cd	Te	Al	Ca	Ni	Fe	Mn	Mg	Se	S	Size (mm)			
																			Ø	H		
CRM	84 X BA1E	1.054	0.0018	0.0148	0.0019	(0.0004)	0.0099	0.0031	0.0026	(0.0004)	0.0135	0.099	0.0002	...	...	...	...	...	40 x 15		c	
CRM	84 X BA2B	0.51	0.002	0.024	0.003	<0.0005	0.008	0.019	0.0052	<0.002	...	0.062	(0.0002)	...	...	...	...	...	40 x 15			
CRM	84 X BA3B	0.233	0.0049	0.034	0.0042	(0.0007)	0.0044	0.0069	0.0032	(0.0003)	0.0051	0.017	...	...	...	...	...	...	40 x 15			
CRM	84 X BA4B	0.108	0.061	0.074	0.0031	(0.0008)	0.003	(0.0003)	0.010	0.030	...	(0.0014)	0.0007	...	...	...	...	...	40 x 15			
	84 X BA5A	1.18	<0.001	0.01	(0.0007)	<0.001	0.002	<0.0005	(0.0002)	<0.001	...	0.093	...	...	...	...	...	...	52 x 14			
	84 X BA6A	0.73	0.001	0.008	0.0010	<0.001	0.002	<0.001	(0.0002)	<0.001	...	0.095	...	...	...	...	...	...	52 x 14			
	84 X BA7A	0.61	0.002	0.009	0.0009	<0.001	0.002	<0.0005	<0.0002	<0.001	...	0.036	...	...	...	...	...	...	52 x 14			
CRM	84 X BA8A	0.293	0.0009	0.019	0.0007	(0.0004)	0.0043	0.0013	0.0010	<0.002	0.021	0.156	...	...	...	...	...	...	40 x 15			
CRM	84 X BA9A	2.97	0.0008	0.0160	0.0009	(0.0008)	0.0018	(0.0002)	<0.0005	<0.0005	0.0189	0.098	...	...	...	...	...	...	40 x 15			
CRM	84 X BACMD	0.645	(0.0003)	0.0022	0.0004	(0.0001)	0.0004	0.0002	<0.0001	(0.0002)	0.0123	0.101	<0.0001	<0.0005	<0.0001	(0.00008)	<0.0001	<0.0001	55 x 12		c	
CRM	84 X BAHCE	<0.0005	(0.0001)	0.0130	0.0005	(0.00015)	0.0005	(0.00017)	<0.0001	(0.0001)	0.0304	0.139	<0.0001	<0.0001	<0.0001	(0.0001)	<0.0001	<0.0001	55 x 12			
CRM	84 DB 101	0.293	...	0.0167	0.00173	...	0.00288	...	...	...	0.0257	0.1436	...	...	...	...	...	...	50 x 30		c	
CRM	84 DB 102	0.895	...	0.0148	0.00109	...	0.00248	...	...	...	0.0124	0.0705	...	...	...	...	...	...	...			
8.5 Various Lead Alloys		Sn	Sb	Bi	Cu	As	Ag	Ni	Cd	Zn	Te	Se	Fe	S	Size (mm)							
															Ø	H						
	85 X PSn2A	1.87	0.023	0.0093	0.035	<0.005	0.002	<0.001	<0.001	<0.001	<0.001	0.0058	<0.001	...	52 x 14		c					
CRM	85 X PSb3B	0.242	2.67	0.017	0.039	0.150	0.002	0.0011	0.0012	(0.0003)	0.0030	0.022	(0.0005)	(0.003)	40 x 15							
CRM	85 X PSb3C	0.226	3.24	0.0150	0.041	0.125	0.0020	0.0005	(0.0002)	<0.0005	(0.0007)	0.011	<0.0005	(0.0034)	40 x 15							
	85 X PSb5A	0.057	5.14	0.022	0.007	0.12	0.0017	0.0025	<0.001	<0.001	<0.001	0.0008	<0.001	(0.0070)	52 x 14							
	85 X PSb8A	0.085	8.43	0.010	0.032	0.02	0.0016	0.0014	<0.001	(0.0002)	<0.005	0.0007	<0.001	(0.0011)	52 x 14							
	85 X PSb10A	0.080	10.2	0.007	0.14	0.11	0.0015	0.0013	<0.001	0.014	<0.002	<0.001	<0.005	...	52 x 14							
	85 X PSb12A	0.21	11.4	0.007	0.30	0.11	0.0015	0.0016	<0.001	0.087	<0.005	<0.001	<0.001	...	52 x 14							
CRM	85 X ANTHD	1.32	6.32	0.059	0.0234	0.487	0.0058	0.0035	0.0052	0.0004	0.010	0.017	0.0041	(0.0030)	40 x 15		c					
CRM	85 X HRH G	0.87	1.14	0.090	0.080	0.73	0.247	0.001	0.0002	...	0.002	0.035	...	(0.0008)	55 x 12							
CRM	85 X CADH A	0.196	2.03	0.0174	0.029	0.191	0.0043	0.0023	2.06	0.0035	0.0021	0.004	0.0003	<0.001	40 x 15							
CRM	85 X 0494Pb1A	0.051	0.95	0.0017	0.012	0.049	...	...	...	...	...	0.004	...	...	40 x 15		c					
CRM	85 X 0494Pb2A	0.155	2.07	0.0018	0.054	0.128	...	...	...	...	...	0.023	...	...	40 x 15							
CRM	85 X 0494Pb3A	0.294	3.02	0.038	0.100	0.277	...	...	...	...	...	(0.05)	...	...	40 x 15							
CRM	85 X 0616Pb1A	0.070	1.76	0.026	0.047	0.068	0.0023	0.0010	0.0022	0.0009	(0.0016)	0.017	<0.001	...	40 x 15		c					
8.6 Lead Babbitts		Sn	Sb	Bi	Cu	As	Ag	Ni	Cd	Zn	Fe	Al	In	Pd	Size (mm)							
															Ø	H						
CRM	86 X PSS1A	4.42	12.11	0.21	0.028	0.59	0.003	0.0014	0.006	<0.001	(0.0005)	<0.001	0.008	<0.0005	40 x 15		c					
CRM	86 X PSS2A	6.33	8.16	0.054	0.118	1.42	0.004	0.0080	0.069	<0.002	<0.001	<0.0005	(0.002)	(0.001)	40 x 15							
CRM	86 X PSS3A	9.01	14.02	0.031	0.608	0.10	0.006	0.0040	0.020	<0.001	(0.0016)	<0.001	0.004	(								