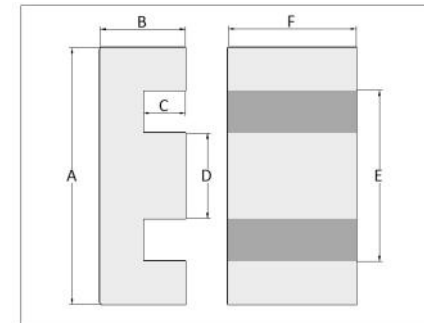


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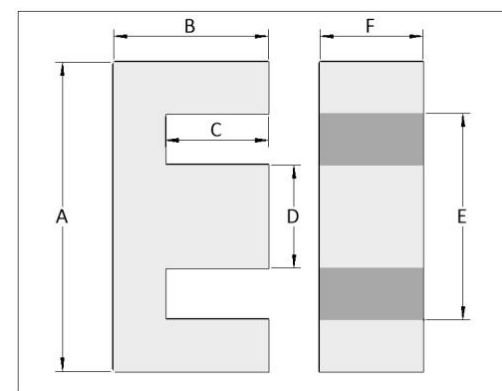
**CORES  
PLANAR**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	AL value +/- 25%		
	A	B	C	D	E	F							5099	7070	8040
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	N001		50ALL
14-04-05	14.00 0.28	3.50 0.13	2.00 0.13	3.00 0.05	11.00 0.23	5.00 0.10	20.7	15.0	311	16.0	240	1.60	1,309	1,440	1,963
18-04-10	18.00 0.36	3.99 0.13	1.98 0.13	3.99 0.07	14.00 0.28	10.00 0.20	24.2	40.1	971	19.8	795	5.03	3,244	3,569	4,866
22-06-17	21.59 0.43	5.72 0.13	3.30 0.13	5.08 0.10	16.51 0.33	15.88 0.33	32.4	78.7	2,549	37.7	2,968	13.1	5,189	5,708	7,784
32-06-20	31.80 0.64	6.35 0.13	3.18 0.13	6.35 0.13	25.40 0.51	20.32 0.41	41.7	129.2	5,395	60.6	7,827	27.8	6,613	7,274	9,919
36-07-18	35.56 0.71	6.53 0.13	2.79 0.13	7.62 0.15	27.74 0.55	17.78 0.36	43.3	134.6	5,835	56.2	7,565	46.2	6,719	7,391	10,078
38-08-25	38.10 0.76	8.26 0.13	4.45 0.13	7.60 0.20	30.84 0.61	25.40 0.51	52.7	191.3	10,079	103.4	19,784	51.5	7,846	8,630	11,769
43-10-28	43.20 0.90	9.50 0.13	5.40 0.13	8.10 0.20	35.50 0.80	27.90 0.60	61.1	229.0	14,000	148.0	33,883	70.3	Call		
58-11-38	58.40 1.17	10.50 0.13	6.50 0.13	8.10 0.20	51.02 1.02	38.10 0.80	80.6	308.0	24,600	279.0	85,927	124.0	Call		
64-10-50	64.00 1.30	10.20 0.13	5.10 0.13	10.20 0.20	53.60 1.10	50.80 1.10	79.9	519.0	41,500	221.3	114,875	210.0	Call		
102-20-38	102.01 1.02	20.29 0.15	13.16 0.15	13.97 0.28	86.74 1.73	37.49 0.41	148.4	539.5	80,039	957.5	516,551	415.0	7,858	8,643	11,787

**CORES**

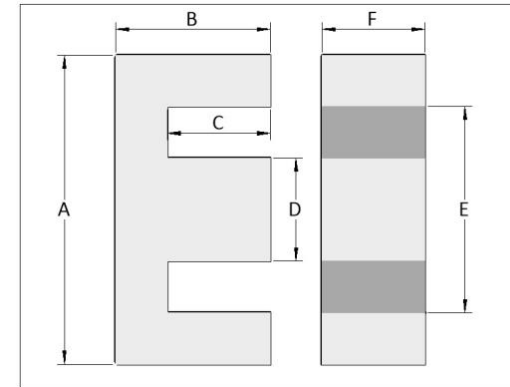
**A < 19mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	AL value +/- 25%			
	A	B	C	D	E	F							5099	7070	8040	5kHF
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	7099	50ALL	5000	
10-06-05	10.24 0.21	5.59 0.13	4.19 0.16	2.44 0.05	7.85 0.16	4.75 0.10	26.2	11.9	311	22.7	270	1.58	955	1,060	1,305	1,445
12-08-04	12.32 0.25	7.75 0.13	5.59 0.17	2.67 0.05	8.00 0.16	4.32 0.09	32.1	14.5	464	29.8	430	2.74	950	1,040	1,300	1,440
13-06-03	12.70 0.25	5.69 0.13	4.09 0.16	3.18 0.06	9.53 0.19	3.18 0.06	27.7	10.1	280	26.0	260	1.42	750	850	1,050	1,170
13-06-04 EF 12.6	12.70 0.25	6.40 0.13	4.65 0.16	3.66 0.07	9.04 0.18	3.61 0.07	29.6	13.0	386	25.0	330	1.96	935	1,075	1,360	1,510
13-06-06	12.70 0.25	5.69 0.13	4.09 0.16	3.18 0.06	9.53 0.19	6.35 0.13	27.7	20.2	560	26.0	520	2.84	1,550	1,715	2,110	2,470
16-07-05 EE16	16.00 0.30	7.26 0.13	5.18 0.16	3.99 0.08	11.71 0.23	4.80 0.10	34.8	19.6	684	40.0	790	3.48	1,290	1,440	1,818	2,240
16-08-05 EF 16	16.10 0.32	8.05 0.13	5.89 0.17	4.55 0.09	11.68 0.23	4.50 0.09	37.6	19.9	750	42.1	840	3.81	1,210	1,340	1,650	2,085
16-08-08	16.10 0.32	8.05 0.13	5.89 0.17	4.55 0.09	11.68 0.23	7.87 0.16	37.6	34.9	1,313	42.1	1,470	6.66	2,235	2,485	3,145	4,000

**CORES**

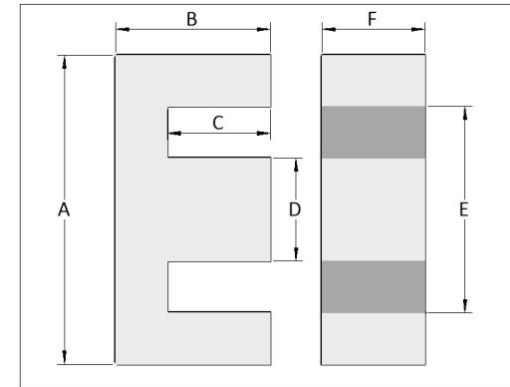
**A = 19 & 20 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	AL value +/- 25%			
	A +/- tol.	B +/- tol.	C +/- tol.	D +/- tol.	E +/- tol.	F +/- tol.							5099 7099 N001	7070	8040 50ALL	5kHF 5000
19-07-05	19.05 0.38	7.595 0.13	5.23 0.17	4.75 0.10	14.33 0.29	4.75 0.10	37.9	22.5	853	50.1	1,130	4.34	1,380	1,530	1,935	2,430
19-08-05 E187	19.05 0.38	8.05 0.13	5.69 0.17	4.75 0.10	14.33 0.29	4.75 0.10	39.8	22.5	894	54.5	1,220	4.54	1,310	1,450	1,815	2,345
19-08-09	19.05 0.38	8.05 0.13	5.69 0.17	4.75 0.10	14.33 0.29	8.71 0.17	39.8	41.2	1,640	54.5	2,250	8.32	2,400	2,650	3,330	4,680
20-10-06 EF 20	19.99 0.40	9.91 0.13	7.19 0.18	5.69 0.11	14.38 0.29	5.64 0.11	46.1	31.5	1,454	52.5	1,620	7.273	1,625	1,780	2,280	2,960
20-10-10	19.99 0.40	9.91 0.13	7.19 0.18	5.69 0.11	14.38 0.29	8.79 0.18	46.1	49.1	2,265	62.4	3,070	11.51	2,590	2,875	3,645	4,860

**CORES**

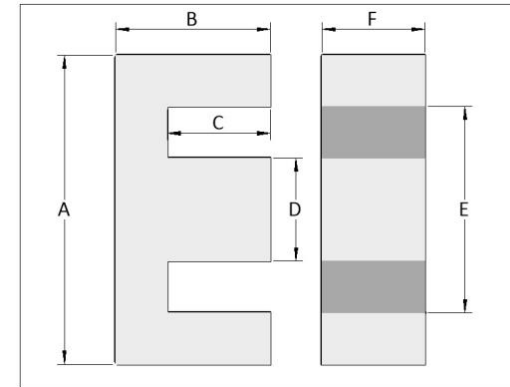
**A = 25 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A	B	C	D	E	F							5099	7070	8040	5kHF
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	7099	7070	50ALL	5000
25-10-06 E2425	25.40 0.51	9.65 0.13	6.60 0.19	6.35 0.13	19.23 0.39	6.35 0.13	49.0	39.4	1,928	85.0	3,350	9.82	1,935	2,100	2,690	3,465
25-10-13	25.40 0.51	9.65 0.13	6.60 0.19	6.35 0.13	19.23 0.39	12.70 0.25	49.0	78.7	3,856	85.0	6,690	19.64	3,850	4,225	5,380	6,900
25-12-06	25.40 0.51	11.94 0.13	8.89 0.19	6.35 0.13	19.23 0.39	6.35 0.13	58.1	39.4	2,291	114.5	4,510	11.58	1,625	1,780	2,285	2,990
25-13-07 EF 25	25.05 0.50	12.55 0.13	8.95 0.20	7.25 0.15	17.98 0.36	7.19 0.14	57.8	51.7	2,983	95.6	4,940	15.18	2,175	2,415	2,995	4,070
25-13-10	25.05 0.50	12.55 0.13	8.95 0.20	7.25 0.15	17.98 0.36	10.74 0.22	57.8	77.2	4,459	95.6	7,380	22.69	3,270	3,640	4,610	6,210
25-16-06 EL2425	25.40 0.51	16.00 0.13	12.83 0.19	6.35 0.13	19.23 0.39	6.35 0.13	74.1	39.9	2,954	165.2	6,590	14.708	1,315	1,450	1,830	2,325
25-16-13	25.40 0.51	16.00 0.13	12.83 0.19	6.35 0.13	19.23 0.39	12.70 0.25	74.1	79.8	5,908	165.2	13,180	29.60	2,635	2,900	3,650	4,650

**CORES**

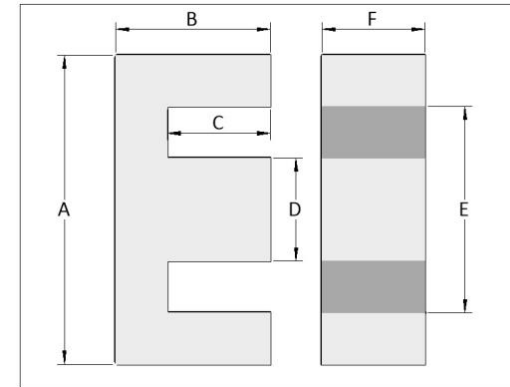
**A = 28 & 30 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A +/- tol.	B +/- tol.	C +/- tol.	D +/- tol.	E +/- tol.	F +/- tol.							mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>
28-11-11	27.99 0.56	10.54 0.13	5.69 0.23	7.70 0.15	19.30 0.39	11.18 0.22	48.1	96.7	4,651	66.0	6,390	24.72	4,950	5,420	6,820	8,665
28-12-09	27.94 0.56	12.14 0.13	8.13 0.21	8.89 0.18	19.94 0.40	8.89 0.18	56.4	73.6	4,151	89.8	6,610	21.42	3,200	3,555	4,502	5,750
30-13-08	30.10 0.60	13.13 0.13	8.13 0.23	10.69 0.21	20.35 0.41	8.13 0.16	58.0	82.4	4,774	78.5	6,460	24.87	3,485	3,870	4,905	6,250
30-13-11 EE 30/11	30.10 0.60	13.13 0.13	8.13 0.23	10.69 0.21	20.35 0.41	10.69 0.21	58.0	108.3	6,281	78.5	8,500	32.73	4,500	4,975	6,440	8,050
30-14-09 EE 30.5	30.48 0.61	13.36 0.13	9.04 0.21	9.22 0.18	22.30 0.45	9.22 0.18	62.7	79.7	4,998	118.3	9,430	25.74	3,115	3,460	4,380	5,475
30-15-07 EE 30/15	30.00 0.60	14.91 0.13	10.13 0.22	6.86 0.14	20.12 0.40	6.91 0.14	66.1	57.3	3,785	134.4	7,700	20.752	2,105	2,330	2,940	4,035
30-17-07	30.00 0.60	17.22 0.13	12.45 0.22	6.86 0.14	20.12 0.40	6.91 0.14	75.0	56.9	4,266	165.0	9,390	23.46	1,840	2,035	2,590	3,440
30-21-11 EL 30/11	30.00 0.60	21.26 0.13	16.26 0.23	10.69 0.21	19.99 0.40	10.69 0.21	90.2	109.8	9,904	151.1	16,590	50.27	2,990	3,260	4,125	5,675

**CORES**

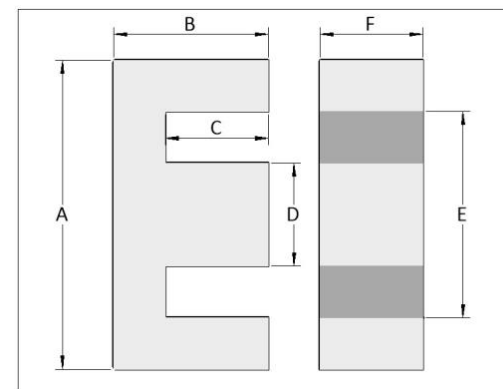
**A = 32 - 36 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A	B	C	D	E	F							5099	7070	8040	5kHF
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	7099	7070	50ALL	5000
32-16-09 EF 32	32.11 0.64	16.10 0.13	11.61 0.22	9.19 0.18	23.32 0.47	9.15 0.18	74.7	82.2	6,134	163.9	13,470	31.19	2,695	2,950	3,735	5,100
32-16-11	32.11 0.64	16.10 0.13	11.61 0.22	9.19 0.18	23.32 0.47	10.64 0.21	74.7	95.6	7,139	163.9	15,670	36.30	3,145	3,495	4,425	5,970
33-14-13	33.2 0.66	14.15 0.13	9.65 0.22	9.8 0.20	2.42 0.48	12.7 0.25	67.3	117.5	7,912	138.8	16,300	40.60	4,290	4,770	6,040	8,175
34-14-09 E375	34.32 0.69	14.12 0.13	9.78 0.21	9.32 0.19	26.04 0.52	9.32 0.19	69.4	81.3	5,646	163.4	13,290	28.92	2,870	3,230	4,050	5,450
34-14-13	34.32 0.69	14.12 0.13	9.78 0.21	9.32 0.19	26.04 0.52	12.70 0.25	69.4	110.8	7,693	163.4	18,110	39.40	3,925	4,410	5,520	7,425
35-18-13 EF35	35 0.70	17.5 0.13	12.5 0.23	10 0.20	24.99 0.50	10 0.20	80.7	100.2	8,082	187.3	18,760	41.11	3,045	3,385	4,285	5,780
35-24-10 EL375	34.93 0.70	23.80 0.13	19.05 0.22	9.53 0.19	25.58 0.51	9.53 0.19	107.1	90.0	9,640	305.8	27,520	48.34	2,055	2,320	2,910	3,880
36-19-09	35.56 0.71	19.05 0.13	13.08 0.25	12.45 0.25	24.13 0.48	9.32 0.19	82.7	111.0	9,176	152.8	16,970	47.24	3,300	3,670	4,645	6,275

**CORES**

**A = 40 - 42 mm**

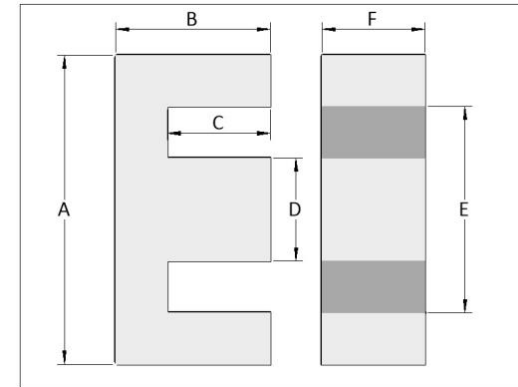


Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A +/- tol.	B +/- tol.	C +/- tol.	D +/- tol.	E +/- tol.	F +/- tol.							mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>
40-17-11 EE40	40.01 0.80	16.99 0.13	10.26 0.26	10.69 0.21	28.02 0.56	10.69 0.21	77.3	127.4	9,850	177.8	22,650	51.86	4,055	4,500	5,695	7,725
41-16-06	40.64 0.81	16.48 0.13	10.54 0.25	12.45 0.25	29.08 0.58	6.35 0.13	77.5	75.8	5,878	175.4	13,300	30.34	2,390	2,705	3,380	4,515
41-16-12 E21	40.64 0.81	16.48 0.13	10.54 0.25	12.45 0.25	29.08 0.58	12.45 0.25	77.5	148.7	11,521	175.4	26,070	59.46	4,725	5,300	6,630	9,185
41-16-13	40.64 0.81	16.48 0.13	10.54 0.25	12.45 0.25	29.08 0.58	12.70 0.25	77.5	151.7	11,754	175.4	26,600	60.67	4,825	5,400	6,755	9,360
42-21-15 E 42/15	41.99 0.84	20.90 0.13	15.16 0.24	11.84 0.24	30.10 0.60	15.44 0.31	97.2	181.5	17,644	276.9	50,250	89.62	4,600	5,155	6,570	8,795
42-21-20 E 42/20	41.99 0.84	20.90 0.13	15.16 0.24	11.84 0.24	30.10 0.60	19.61 0.39	97.2	230.4	22,404	276.9	63,810	113.80	5,845	6,555	8,340	11,165
42-33-20	42.29 0.85	32.59 0.13	26.49 0.25	11.94 0.24	30.20 0.60	19.51 0.39	143.2	235.0	33,661	483.8	113,700	168.54	4,045	4,495	5,775	7,720



**CORES**

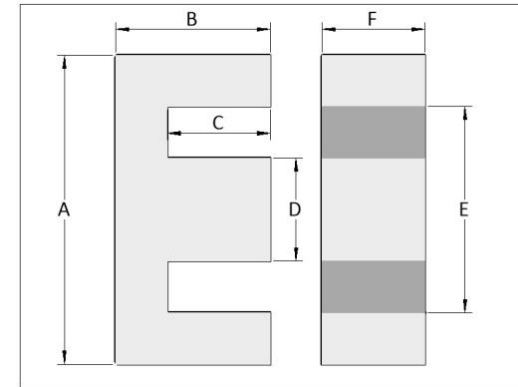
**A = 43 - 49 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A	B	C	D	E	F							5099	7070	8040	5kHF
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	7099	7070	50ALL	5000
43-21-15	42.85 0.86	21.11 0.13	15.14 0.25	11.89 0.24	30.96 0.62	15.44 0.31	98.3	183.8	18,075	288.8	53,080	91.85	4,605	5,180	6,600	8,790
43-21-20	42.85 0.86	21.11 0.13	15.14 0.25	11.89 0.24	30.96 0.62	19.61 0.39	98.3	233.4	22,951	288.8	67,390	116.62	5,855	6,575	8,370	11,185
43-21-22	42.85 0.86	21.11 0.13	15.14 0.25	11.89 0.24	30.96 0.62	22.23 0.45	98.3	264.5	26,013	288.8	76,390	132.18	6,640	7,435	9,485	12,685
46-19-09	46.36 0.93	18.54 0.13	11.43 0.27	15.88 0.32	32.13 0.64	9.4 0.19	84.8	138.3	11,726	185.8	25,700	61.16	4,015	4,460	5,650	7,650
47-21-16 E625	46.86 0.94	19.63 0.13	12.19 0.28	15.62 0.31	32.26 0.65	15.62 0.31	88.9	234.6	20,858	202.8	47,590	108.24	6,510	7,290	9,290	12,440
47-21-32	46.86 0.94	19.63 0.13	12.19 0.28	15.62 0.31	32.26 0.65	31.24 0.63	88.9	469.0	41,715	202.8	95,080	216.47	13,030	14,480	18,350	24,940
49-23-11	48.77 0.98	22.86 0.13	15.24 0.28	15.75 0.32	33.71 0.67	11.3 0.23	103.0	173.9	17,859	273.7	47,470	91.84	4,150	4,625	5,840	7,920

**CORES**

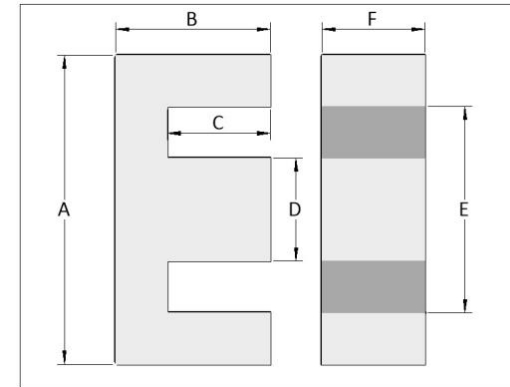
**A = 50 - 65 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A	B	C	D	E	F							5099	7070	8040	5kHF
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams	7099	7070	50ALL	5000
55-28-21 E 55/21	55.12 1.10	27.51 0.13	18.80 0.30	16.94 0.34	38.10 0.76	20.70 0.41	123.4	354.0	43,668	397.7	140,790	223.67	7,085	7,930	10,100	13,545
55-28-25 E 55/25	55.12 1.10	27.51 0.13	18.80 0.30	16.94 0.34	38.10 0.76	25.40 0.51	123.4	434.4	53,580	397.7	172,750	274.44	8,695	9,735	12,390	16,630
55-28-31	55.12 1.10	27.51 0.13	18.80 0.30	16.94 0.34	38.10 0.76	30.94 0.62	123.4	529.1	65,261	397.7	210,400	334.27	10,595	11,770	14,910	20,265
55-28-42	55.12 1.10	27.51 0.13	18.80 0.30	16.94 0.34	38.10 0.76	40.89 0.82	123.4	699.3	86,264	397.7	278,120	441.85	14,000	15,720	19,900	26,795
56-24-19	56.13 1.12	23.60 0.13	14.61 0.31	18.80 0.38	38.61 0.77	18.80 0.38	106.5	339.8	36,202	289.4	98,320	187.96	7,875	8,820	11,220	15,055
59-25-19	58.72 1.17	24.69 0.13	14.61 0.33	18.39 0.37	38.56 0.77	18.67 0.37	109.4	364.2	39,937	294.5	107,270	208.35	8,220	8,820	11,200	15,720
65-33-27	65.15 1.30	32.51 0.13	22.61 0.25	19.66 0.39	44.66 0.90	27.10 0.54	147.1	539.0	79,273	565.3	304,670	203.82	9,062	10,069	12,754	17,333

**CORES**

**A = 70—100 mm**



Catalog #	Dimensions [mm]						$L_e$	$A_e$	$V_e$	$W_a$	$W_a A_e$	Set Weight	No gap AL value +/- 25%			
	A	B	C	D	E	F							5099 7099 N001	7070	8040 50ALL	5kHF 5000
Common Name	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	+/- tol.	mm	mm <sup>2</sup>	mm <sup>3</sup>	mm <sup>2</sup>	mm <sup>4</sup>	Grams				
70-54-32	69.85 1.40	53.98 0.13	42.85 0.35	22.23 0.45	47.65 0.95	31.75 0.64	231.8	705.5	163,488	1,089.5	768,580	822.18	7,520	8,275	10,580	14,380
71-33-20	70.49 1.41	32.94 0.13	22.25 0.34	21.64 0.43	48.74 0.98	20,30 0.41	149.9	438.4	65,727	603.0	264,350	337.01	7,220	8,020	10,160	13,800
71-33-32	70.49 1.41	32.94 0.13	22.25 0.34	21.64 0.43	48.74 0.98	31.6 0.63	149.9	682.5	102,337	603.0	411,580	524.70	11,245	12,495	15,825	21,510
72-28-19	72.39 1.45	27.94 0.13	18.03 0.33	19.05 0.38	53.34 1.07	19.05 0.38	136.9	368.0	50,379	618.4	227,540	258.40	6,635	7,450	9,485	12,685
80-38-20 E80	80.01 1.60	38.10 0.13	28.19 0.33	19.81 0.40	60.20 1.20	19.81 0.40	184.3	392.5	72,334	1,138.6	446,930	365.49	5,260	5,880	7,110	10,050
80-38-33	80.01 1.60	38.10 0.13	28.19 0.33	19.81 0.40	60.20 1.20	33.00 0.66	184.3	654.2	120,550	1,138.6	744,830	608.33	8,767	9,800	11,850	16,750
100-59-21	100.28 2.01	59.44 0.13	46.86 0.25	27.48 0.25	72 min	20.62 0.55	274.8	551.2	72,334	2,086.2	1,149,917	365.49	4,967	5,464	7,451	12,418
100-59-28 E100	100.28 2.01	59.44 0.13	46.86 0.25	27.48 0.25	72 min	27.48 0.55	274.8	734.5	201,856	2,086.2	1,532,319	365.49	6,621	7,283	9,325	16,553

CONTACT

[Sales@tscinternational.com](mailto:Sales@tscinternational.com)

39105 Magnetic Blvd

Wadsworth, IL. 60083

Tel: 847 249-4900

Fax: 847 249-4988

Website: [www.tscinternational.com](http://www.tscinternational.com)

Store: [www.tscinternational.net](http://www.tscinternational.net)

**TSC INTERNATIONAL FAMILY OF COMPANIES**

TSC  
**BOURGEOIS**  
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INTERNATIONAL  
COMPANY  
Mn Zn FERRITE CORES

**Pyroferric**  
IRON POWDER CORES

History

Ferrite International was established 1985 as a division of Tempel Steel Company and was purchased in 1990 by Tempel Smith.

Quality Policy

To provide the highest value magnetic materials to our customers through a combination of exceptional quality, price, delivery and service.

Ferrite International is compliant to ISO 9000 1994.

International Environmental Regulatory Compliance

RoHS \* REACH \* ELV \* WEEE \* Halogen Free

Social Accountability Compliance

US Family and Medical Leave Act  
US Environmental Protection Agency  
US Clean Air Act  
US National Primary Drinking Water Regulation

US Fair Labor Standards Act  
US Occupational Safety and Health Administration  
US Equal Employment Opportunity Commission  
US Conflict Free Minerals

Warranty / Disclaimer

"TSC International" expressly warrants to the "Buyer" for whom it manufactures, sells and delivers product made of magnetic materials will conform to specifications and drawings as published within the product catalog. Buyer specifications that have not been approved by the International Electronic Commission shall be considered as a custom product, and will be warranted by TSC International in a separate written agreement.

There are no other express or implied warranties which extend beyond the above-referenced warranty of conformance to the specifications and specifically. TSC International does not warrant that any product will be merchantable or fit for the particular purpose for which the purchaser, its successors, agents or affiliates, intends to use product. Before using these products, buyer agrees to determine suitability of the product for their intended use or application.

Buyer shall notify TSC International in writing (and reasonable detail) of any defect in any product within thirty (30) days after the delivery date thereof. If products do not conform to the specification and TSC determines to its satisfaction that the parts are defective, and the defect is not due to miss-use, accident or improper application, buyer's remedy shall be limited, at TSC International's sole discretion, to either (1) The return of such product in exchange for the return of, or credit for any payment received by TSC International relating thereto; (2) The replacement of such product; or (3) The repair of such product. TSC International shall pay reasonable shipping costs incurred in connection with the return, replacement or repair of any defective product. Solution to resolve defective product shall be within (60) days after written receipt of written notice from the buyer of such defect.

TSC International shall not be liable for any incidental or consequential loss, damage, or expense (including without limitation, economic loss or lost profits) of buyer for any defective product sold and delivered to the buyer regardless or whether such loss, damage or expense results from breach of contract or warranty or commission of tort (including, without limitation, strict liability or negligence).

These products are not designed for use in life support appliances, devices or systems where malfunction of these products can reasonably be expected to result in personal injury, Buyers that are using or selling these products for use in such applications do so at their own risk and agree to indemnify TSC International for any damages resulting from such application.

TSC International reserves the right to make changes without notice in order to improve design and supply the best possible product.