Rectangular Compacted Litz*

The rectangular compacted Type 8 Litz constructions listed in this section are designed with copper densities from 60 to 75 percent of the cable's cross sectional area. This type Litz is particularly suited for high frequency motor, generator, transformer and inverter windings where limited space necessitates a conductor with excellent fill factor and copper density.

New England Wire has pioneered the development of Type 8 Litz designs including square configurations as well as the rectangular constructions listed. Please consult our design team for the Type 8 designs requiring specific wire sizes or dimensions.

Equivalent AWG	Circular Mil Area	Number of Wires	AWG of Wire	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS/1000 FT	Direct Current Resistance OHMS/1000 FT^	Construction
RECOMMENDED OPERATING FREQUENCY - 400 HZ TO 5 KHZ · The following designs utilize monolithic conductors for the base group.									
4	46403	7	12	H	.327	.152	140.0	.262	7X12
3	53032	8	12	H	.374	.152	160.0	.229	8X12
3	59661	9	12	H	.421	.152	180.0	.204	9X12
2	66290	10	12	H	.468	.152	200.0	.184	10X12
2	72919	11	12	H	.515	.152	220.0	.167	11X12
2	79548	12	12	H	.533	.152	240.0	.153	12X12
1	86177	13	12	H	.575	.152	260.0	.141	13X12
1	92806	14	12	H	.619	.152	280.0	.131	14X12
1	99435	15	12	H	.661	.152	300.0	.122	15X12
1/0	106064	16	12	H	.704	.152	320.0	.115	16X12
1/0	112693	17	12	H	.747	.152	341.0	.108	17X12
1/0	119322	18	12	H	.789	.152	361.0	.102	18X12
6	28763	7	14	H	.262	.121	88.0	.416	7X14
5	32872	8	14	H	.299	.121	101.0	.364	8X14
5	36981	9	14	H	.337	.121	113.0	.324	9X14
4	41090	10	14	H	.374	.121	126.0	.291	10X14
4	45199	11	14	H	.392	.121	138.0	.265	11X14
4	49308	12	14	H	.426	.121	151.0	.243	12X14
3	53417	13	14	H	.460	.121	163.0	.224	13X14
3	57526	14	14	H	.495	.121	176.0	.208	14X14
3	61635	15	14	H	.528	.121	189.0	.194	15X14
2	65744	16	14	H	.563	.121	201.0	.182	16X14
2	69853	17	14	H	.597	.121	214.0	.171	17X14
2	73962	18	14	H	.631	.121	226.0	.162	18X14
2	78071	19	14	H	.666	.121	239.0	.153	19X14
1	82180	20	14	H	.700	.121	251.0	.146	20X14
1	86289	21	14	H	.735	.121	264.0	.139	21X14
1	90398	22	14	H	.769	.121	277.0	.132	22X14
1	94507	23	14	H	.802	.121	289.0	.127	23X14
1	98616	24	14	H	.837	.121	302.0	.121	24X14
7	18067	7	16	H	.210	.097	55.7	.663	7X16
7	20648	8	16	H	.240	.097	63.6	.581	8X16
7	23229	9	16	H	.270	.097	71.6	.516	9X16
6	25810	10	16	H	.299	.097	79.5	.464	10X16
6	28391	11	16	H	.329	.097	87.5	.422	11X16
6	30972	12	16	H	.341	.097	95.4	.387	12X16
5	33553	13	16	H	.368	.097	103.0	.357	13X16

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

***New England U.S. Patent 4439256**

^ Not for specification purposes.

Rectangular Compacted Litz*, *continued*

Equivalent AWG	Circular Mil Area	Number of Wires	AWG of Wire	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS/1000 FT	Direct Current Resistance OHMS/1000 FT.^	Construction
RECOMMENDED OPERATING FREQUENCY - 400 HZ TO 5 KHZ (CONTINUED) · The following designs utilize monolithic conductors for the base group.									
5	36134	14	16	H	.396	.097	111.0	.332	14X16
5	38715	15	16	H	.423	.097	119.0	.310	15X16
4	41296	16	16	H	.451	.097	127.0	.290	16X16
4	43877	17	16	H	.478	.097	135.0	.273	17X16
4	46458	18	16	H	.506	.097	143.0	.258	18X16
4	49039	19	16	H	.534	.097	151.0	.244	19X16
3	51620	20	16	H	.561	.097	159.0	.232	20X16
3	54201	21	16	H	.588	.097	167.0	.221	21X16
3	56782	22	16	H	.616	.097	175.0	.211	22X16
3	59363	23	16	H	.643	.097	183.0	.202	23X16
3	61944	24	16	H	.671	.097	191.0	.194	24X16
10	11368	7	18	H	.168	.078	35.1	1.054	7X18
9	12992	8	18	H	.192	.078	40.2	.923	8X18
9	14616	9	18	H	.216	.078	45.2	.820	9X18
8	16240	10	18	H	.240	.078	50.2	.738	10X18
8	17864	11	18	H	.252	.078	55.2	.671	11X18
8	19488	12	18	H	.273	.078	60.2	.615	12X18
7	21112	13	18	H	.295	.078	65.3	.568	13X18
7	22736	14	18	H	.317	.078	70.3	.527	14X18
7	24360	15	18	H	.339	.078	75.3	.492	15X18
6	25984	16	18	H	.361	.078	80.3	.461	16X18
6	27608	17	18	H	.383	.078	85.3	.434	17X18
6	29232	18	18	H	.405	.078	90.4	.410	18X18
6	30856	19	18	H	.428	.078	95.4	.388	19X18
5	32480	20	18	H	.449	.078	100.0	.369	20X18
5	34104	21	18	H	.472	.078	105.0	.351	21X18
5	35728	22	18	H	.493	.078	110.0	.335	22X18
5	37352	23	18	H	.500	.078	115.0	.321	23X18
5	38976	24	18	H	.538	.078	120.0	.308	24X18
12	7168	7	20	H	.132	.062	22.1	1.670	7X20
11	8192	8	20	H	.149	.062	25.3	1.460	8X20
11	9216	9	20	H	.167	.062	28.4	1.300	9X20
10	10240	10	20	H	.184	.062	31.6	1.170	10X20
10	11264	11	20	H	.201	.062	34.8	1.060	11X20
10	12288	12	20	H	.219	.062	37.9	.974	12X20
9	13312	13	20	H	.236	.062	41.1	.899	13X20
9	14336	14	20	H	.254	.062	44.2	.835	14X20
9	15360	15	20	H	.272	.062	47.4	.779	15X20
8	16384	16	20	H	.289	.062	50.6	.731	16X20
8	17408	17	20	H	.307	.062	53.7	.688	17X20
8	18432	18	20	H	.325	.062	56.9	.650	18X20
8	19456	19	20	H	.342	.062	60.0	.615	19X20
7	20480	20	20	H	.360	.062	63.2	.585	20X20

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

****New England U.S. Patent 4439256***
^ Not for specification purposes.

Rectangular Compacted Litz*, *continued*

Equivalent AWG	Circular Mil Area	Number of Wires	AWG of Wire	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS/1000 FT	Direct Current Resistance OHMS/1000 FT	Construction
RECOMMENDED OPERATING FREQUENCY - 400 HZ TO 5 KHZ (CONTINUED) · The following designs utilize monolithic conductors for the base group.									
7	21504	21	20	H	.378	.062	66.4	.557	21X20
7	22528	22	20	H	.395	.062	69.5	.531	22X20
7	23552	23	20	H	.413	.062	72.7	.508	23X20
7	24576	24	20	H	.431	.062	75.8	.487	24X20
14	4480	7	22	H	.108	.050	13.9	2.69	7X22
13	5120	8	22	H	.120	.050	15.9	2.35	8X22
13	5760	9	22	H	.133	.050	17.9	2.09	9X22
12	6401	10	22	H	.147	.050	19.9	1.88	10X22
12	7041	11	22	H	.161	.050	21.9	1.71	11X22
12	7681	12	22	H	.175	.050	23.9	1.57	12X22
11	8321	13	22	H	.189	.050	25.9	1.45	13X22
11	8961	14	22	H	.204	.050	27.9	1.34	14X22
11	9601	15	22	H	.218	.050	29.9	1.25	15X22
10	10241	16	22	H	.232	.050	31.8	1.18	16X22
10	10881	17	22	H	.246	.050	33.8	1.11	17X22
15	3636	9	24	H	.105	.038	11.3	3.30	9X24
14	4040	10	24	H	.116	.038	12.6	2.97	10X24
14	4444	11	24	H	.129	.038	13.9	2.70	11X24
14	4848	12	24	H	.140	.038	15.1	2.48	12X24
13	5252	13	24	H	.152	.038	16.4	2.28	13X24
13	5656	14	24	H	.163	.038	17.6	2.12	14X24
13	6060	15	24	H	.176	.038	18.9	1.98	15X24
12	6464	16	24	H	.187	.038	20.2	1.86	16X24
12	6868	17	24	H	.199	.038	21.4	1.75	17X24
RECOMMENDED OPERATING FREQUENCY - 60 HZ TO 1 KHZ · The following designs utilize 7 strand concentric conductors for the base group.									
2	79576	49	18	H	.495	.233	250.0	.153	7X7X18
1	90944	56	18	H	.559	.233	285.0	.134	8X7X18
1	102312	63	18	H	.624	.233	321.0	.119	9X7X18
1/0	113680	70	18	H	.689	.233	357.0	.107	10X7X18
1/0	125048	77	18	H	.755	.233	392.0	.097	11X7X18
2/0	136416	84	18	H	.820	.233	428.0	.089	12X7X18
4	50176	49	20	H	.396	.187	157.0	.242	7X7X20
3	57344	56	20	H	.448	.187	180.0	.212	8X7X20
3	64512	63	20	H	.500	.187	202.0	.188	9X7X20
2	71680	70	20	H	.552	.187	225.0	.170	10X7X20
2	78848	77	20	H	.604	.187	247.0	.154	11X7X20
1	86016	84	20	H	.657	.187	269.0	.141	12X7X20
1	93184	91	20	H	.709	.187	292.0	.130	13X7X20
1	100352	98	20	H	.768	.187	314.0	.121	14X7X20
1/0	107520	105	20	H	.815	.187	337.0	.113	15X7X20
1/0	114688	112	20	H	.868	.187	359.0	.106	16X7X20

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

****New England U.S. Patent 4439256***

^ Not for specification purposes.

Rectangular Compacted Litz*, *continued*

Equivalent AWG	Circular Mil Area	Number of Strands	AWG of Strand	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS./1000 FT.	Direct Current Resistance OHMS/1000 FT*.	Construction
RECOMMENDED OPERATING FREQUENCY - 60 HZ TO 1 KHZ (CONTINUED) · The following designs utilize 7 strand concentric cnductors for the base group.									
6	31368	49	22	H	.317	.150	99.0	.389	7X7X22
5	35848	56	22	H	.359	.150	113.0	.341	8X7X22
5	40329	63	22	H	.400	.150	127.0	.303	9X7X22
4	44810	70	22	H	.442	.150	141.0	.273	10X7X22
4	49291	77	22	H	.484	.150	156.0	.248	11X7X22
3	53772	84	22	H	.526	.150	170.0	.227	12X7X22
3	58253	91	22	H	.568	.150	184.0	.210	13X7X22
3	62734	98	22	H	.611	.150	198.0	.195	14X7X22
2	67215	105	22	H	.653	.150	212.0	.182	15X7X22
2	71696	112	22	H	.695	.150	226.0	.170	16X7X22
2	76177	119	22	H	.738	.150	240.0	.160	17X7X22
2	80658	126	22	H	.780	.150	255.0	.151	18X7X22
1	85139	133	22	H	.823	.150	269.0	.143	19X7X22
1	89614	140	22	H	.864	.150	283.0	.136	20X7X22
8	19796	49	24	H	.257	.121	62.7	.615	7X7X24
7	22624	56	24	H	.290	.121	71.6	.538	8X7X24
7	25452	63	24	H	.324	.121	80.6	.478	9X7X24
6	28280	70	24	H	.357	.121	89.5	.430	10X7X24
6	31108	77	24	H	.391	.121	98.5	.391	11X7X24
5	33936	84	24	H	.425	.121	107.0	.359	12X7X24
5	36764	91	24	H	.459	.121	116.0	.331	13X7X24
5	39592	98	24	H	.494	.121	125.0	.307	14X7X24
4	42420	105	24	H	.528	.121	134.0	.287	15X7X24
4	45248	112	24	H	.562	.121	143.0	.269	16X7X24
4	48076	119	24	H	.596	.121	152.0	.253	17X7X24
4	50904	126	24	H	.630	.121	161.0	.239	18X7X24
3	53732	133	24	H	.665	.121	170.0	.226	19X7X24
3	56560	140	24	H	.699	.121	179.0	.215	20X7X24
3	59388	147	24	H	.734	.121	187.0	.205	21X7X24
3	62216	154	24	H	.767	.121	197.0	.196	22X7X24
2	65044	161	24	H	.801	.121	206.0	.187	23X7X24
2	67872	168	24	H	.836	.121	215.0	.179	24X7X24
10	12390	49	26	H	.206	.097	39.7	.987	7X7X26
9	14160	56	26	H	.233	.097	45.4	.864	8X7X26
9	15930	63	26	H	.260	.097	51.1	.768	9X7X26
8	17700	70	26	H	.287	.097	56.8	.691	10X7X26
8	19470	77	26	H	.314	.097	62.4	.628	11X7X26
7	21240	84	26	H	.342	.097	68.1	.576	12X7X26
7	23010	91	26	H	.369	.097	73.8	.532	13X7X26
7	24780	98	26	H	.397	.097	79.5	.494	14X7X26
6	26550	105	26	H	.424	.097	85.2	.461	15X7X26
6	28320	112	26	H	.452	.097	90.8	.432	16X7X26
6	30090	119	26	H	.479	.097	96.5	.407	17X7X26
6	31860	126	26	H	.507	.097	102.0	.384	18X7X26
5	33630	133	26	H	.534	.097	108.0	.364	19X7X26

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

****New England U.S. Patent 4439256***
^ Not for specification purposes.

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Rectangular Compacted Litz*, *continued*

Equivalent AWG	Circular Mil Area	Number of Wires	AWG of Wire	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS/1000 FT	Direct Current Resistance OHMS/1000 FT	Construction
RECOMMENDED OPERATING FREQUENCY - 60 HZ TO 1 KHZ (CONTINUED) · The following designs utilize 7 strand concentric conductors for the base group.									
5	35400	140	26	H	.562	.097	114.0	.346	20X7X26
5	37170	147	26	H	.590	.097	119.0	.329	21X7X26
5	38940	154	26	H	.617	.097	125.0	.314	22X7X26
5	40710	161	26	H	.644	.097	131.0	.300	23X7X26
4	42480	168	26	H	.672	.097	136.0	.288	24X7X26
RECOMMENDED OPERATING FREQUENCY - 60 HZ TO 10 KHZ · The following designs utilize 7 strand concentric conductors for the base group.									
12	7784	49	28	H	.151	.078	25.1	1.50	7X7X28
11	8896	56	28	H	.173	.078	28.6	1.360	8X7X28
11	10008	63	28	H	.194	.078	32.2	1.210	9X7X28
10	11120	70	28	H	.216	.078	35.8	1.090	10X7X28
10	12232	77	28	H	.238	.078	39.4	.991	11X7X28
9	13344	84	28	H	.259	.078	43.0	.909	12X7X28
9	14456	91	28	H	.281	.078	46.6	.839	13X7X28
9	15568	98	28	H	.302	.078	50.1	.779	14X7X28
8	16680	105	28	H	.324	.078	53.7	.727	15X7X28
8	17792	112	28	H	.346	.078	57.3	.681	16X7X28
8	18904	119	28	H	.367	.078	60.9	.641	17X7X28
8	20016	126	28	H	.389	.078	64.5	.606	18X7X28
7	21128	133	28	H	.410	.078	68.0	.574	19X7X28
7	22240	140	28	H	.432	.078	71.6	.545	20X7X28
7	23352	147	28	H	.453	.078	75.2	.519	21X7X28
7	24464	154	28	H	.475	.078	78.8	.496	22X7X28
7	25576	161	28	H	.497	.078	82.4	.474	23X7X28
14	4900	49	30	H	.122	.063	15.8	2.48	7X7X30
13	5600	56	30	H	.139	.063	18.1	2.17	8X7X30
13	6300	63	30	H	.157	.063	20.3	1.93	9X7X30
12	7000	70	30	H	.174	.063	22.6	1.74	10X7X30
12	7700	77	30	H	.191	.063	24.9	1.58	11X7X30
11	8400	84	30	H	.209	.063	27.1	1.45	12X7X30
11	9100	91	30	H	.226	.063	29.4	1.34	13X7X30
11	9800	98	30	H	.244	.063	31.6	1.24	14X7X30
10	10500	105	30	H	.261	.063	33.9	1.14	15X7X30
10	11200	112	30	H	.278	.063	36.2	1.09	16X7X30
10	11900	119	30	H	.296	.063	38.4	1.02	17X7X30

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

***New England U.S. Patent 4439256**

***^ Not for specification purposes.**

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Rectangular Compacted Litz*, *continued*

Equivalent AWG	Circular Mil Area	Number of Wires	AWG of Wire	Film Coating[1]	Nominal Width	Nominal Thickness	Nominal LBS/1000 FT	Direct Current Resistance OHMS/1000FT	Construction
RECOMMENDED OPERATING FREQUENCY - 10 HZ TO 50 KHZ · The following designs utilize 7 strand concentric and bonded* conductors for the base group.									
17	2470	49	33	H	.082	.045	8.0	4.97	7X7X33
16	2822	56	33	H	.094	.045	9.2	4.35	8X7X33
16	3176	63	33	H	.106	.045	10.3	3.86	9X7X33
15	3529	70	33	H	.118	.045	11.4	3.47	10X7X33
15	3882	77	33	H	.129	.045	12.6	3.16	11X7X33
14	4234	84	33	H	.141	.045	13.7	2.90	12X7X33
14	4587	91	33	H	.153	.045	14.9	2.68	13X7X33
14	4940	98	33	H	.165	.045	16.0	2.48	14X7X33
13	5293	105	33	H	.177	.045	17.2	2.32	15X7X33
13	5646	112	33	H	.188	.045	18.3	2.17	16X7X33
13	5999	119	33	H	.200	.045	19.5	2.05	17X7X33
20	1225	49	36	H	.058	.032	4.0		7X7X36
19	1400	56	36	H	.066	.032	4.6	10.14	8X7X36
19	1575	63	36	H	.074	.032	5.1	8.87	9X7X36
18	1750	70	36	H	.082	.032	5.7	7.88	10X7X36
18	1925	77	36	H	.091	.032	6.3	7.10	11X7X36
17	2100	84	36	H	.099	.032	6.8	6.28	12X7X36
17	2275	91	36	H	.107	.032	7.4	5.91	13X7X36
17	2450	98	36	H	.115	.032	8.0	5.46	14X7X36
16	2625	105	36	H	.124	.032	8.6	5.07	15X7X36
16	2800	112	36	H	.132	.032	9.1	4.73	16X7X36
16	2975	119	36	H	.140	.032	9.7	4.43 4.17	17X7X36

1 H = heavy-film coating

All measurements are in inches unless otherwise stated.

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