High Frequency Litz Wires

Technical Information

High frequency litz wires are manufactured by twisting of several enamelled single wires according to DIN 46447. In bigger cables different bundles are combined. The position of a single wire is not defined in this type of cable. To reach the full performance all wires have to be stripped and connected at both ends to the circuit and none of these thin wires is allowed to be broken. In this case all wires are connected in parallel.

The higher quality within the high frequency range is caused by the enlargement of the section which is effectively part of the current flow. In a solid wire this flow is limited by the effects described below.

Skin Effect

The magnetic field along a single conductor displaces the charge carriers to the edge of the wire. Because this behaviour most of the current flows at the surface of the conductor. With connecting a lot of insulated thin wires in parallel this effect can be reduced.

Proximity Effect

Within a coil this effect is caused by the displacement of charge carriers to one side of the conductor by the magnetic field which is produced by current flowing within the coil or by external temporarily changing magnetic fields.

Twisting Sense

For twisting of high frequency litz wires an additional parameter, called twisting sense, defines whether the twisting is turning to the left, type S, or to the right type Z.

bundle

standard twisting sense is S (Z on request)





\$ Z

(left)(right)

Number of strands	Compression factor
from 3 to 6	1.25
7	1.15
from 8 to 12	1.25
16	1.26
20	1.27
from 25 to 400	1.28

twisting sense

Calculation of Nominal Outer Diameter of Litz Wires

The calculation of the nominal outer diameter of litz wires manufactured from enamelled copper strands with spinning of textiles can be approached by the following formula.

 $D = \kappa \cdot \sqrt{n \cdot d} + \text{thickness of spinning}$

- Therefore is:
- D = nominal diameter of insulated conductor (in mm)
- κ = compression factor
- n = number of single copper wires
- d = nominal diameter of an enamelled copper strand

Measuring of Litz Wire Diameter

The litz diameter is the diameter of the circle which is drawn around a rope.

Length of Lay

The length of lay of a certain layer in a rope is the lead of the spiral laying litz wires within this layer.

Short length of lay: high flexibility, good stability of strands, better roundness. Long length of lay: less flexibility, less stability of strands, better filling factor. The length of lay can be chosen from 1 to 500 mm.

Available tolerances: \pm 10% and \pm 20% (standard).

Without your specification the optimal lay of length is defined by the manufacturer.





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HF Litz Wires from Enamelled Copper Strands (Without or with Additional Insulation)

Conductors

	Bare copper strands	Enamelled copper strands					
Copper section	up to 2000 mm ²	up to 2000 mm ²					
Diamotor of a strand	from 0.032 to 4.00 mm	from 0.032 to 4.00 mm =					
	= AWG 41 to AWG 6	AWG 42 to AWG 6					
MW 79-155°C		IEC 60317-20					
MW 82-180°C		IEC 60317-51					
MW 77 - 180°C		IEC 60317-23					
MW 30-180°C		IEC60317-8					
MW 35 - 220°C		IEC 60317-13					
MW 16-220°C		IEC 60317-7					
		others: on request					
Number of wires	from minimal 9 x 0.023 mm (0.24	mm Diameter) up to several tens of thousands					
Cable dimensions from	from 2.20 x 1.5	50 mm to $40.00 \times 25.00 \text{ mm}$					
min. to max.	110111 2.20 X 1.50 11111 to 40.00 X 25.00 mm						
	Taping: kraft paper or crêpe paper, Nomex [®] ,	, polyester, glass fabric, glass fibres/mica or other tapes up					
	to 20 mm thickness on demand						
Additional insulation	Covering with threads: 1 or 2 layers of cotton, nylon, polyester, synthetic silk or Nomex®						
	Braid: cotton, nylon, polyester or Nomex®						
	Others: on request						

Taping

Туре	Temperature Rating	Thickness	Designation
Paper coated			
crêpe paper	105°C	from 50 to 125 μm	K 50 - K 60 - K 80 - K 100 - K 125
crêpe paper heat treated or Insuldur kraft paper	120°C	from 50 to 10 μm	KI 50V - KI 80V - KI 100V
crêpe paper with increased solidness	105 °C	50 and 75 µm	M 50 - M 75
crêpe paper covered double side	120°C	90 um	
with epoxy in form of rhombuses	120 C		
Crêpe kraft paper fine crêpe			
covered double side with epoxy in form of	105 °C	65 um	CDE 50
rhombuses	105 C		
covered one side with epoxy in form of rhombuses	120 °C	50 and 80 µm	KCI 12dn - KCI 22dn
Crêpe paper			
Crêpe paper 80 μm 50 % crêpe	105 °C	315 µm	KC 105
Crêpe paper 120 μm 90 % finely crêpe	105 °C	370 µm	KC 80
Crêpe paper 75 μm 100 % crêpe	120 °C	500 µm	KCI 100V
Aramide paper			
Aramide paper	180 °C	50 µm	Nomex® 410-50
Aramid-Papier one side covered with epoxy	180 °C	90 µm	Nomex [®] 410-80E
Polyester			
PET film	130 °C	from 8 to 50 μm	FP 08 - FP 12 - FP 19 - FP 23 - FP 36 - FP 50
Semi-conductive polyester tape	155 °C	180 µm	PSC 180
Mica paper			
Mica paper on polyester film	155 °C	from 80 to 90 μm	MFPE 80 - MFPE 90
Mica paper on polyester film one side covered with	155 %	from 80 to 00 um	
ероху	135 C	ποιπου το 90 μπ	MI FE 80 - MI FE 90
Mica paper on glass fabric	155 °C	130 µm	MVT 130
Polyimide film			
Polyimide film	155 °C	25, 40 μm	Kapton [®] 100HN
Polyimide film	220 °C	25, 40 μm	Apical®
Glass fabric tape	220 °C	from 100 to 200 μm	VT 100 - VT 130 - VT 200
cotton tape	90 °C	180 and 300 µm	JAC 2380/0.18 - JAC 2380/0.30
covering with thread of cotton	90 °C	60 and 120 nm	Cotton 60 nm Cotton 120 nm

				_	Gra	ide 1		Grade 2				
Nominal	Nominal c	opper section			Diameter				Diameter			
Diameter			AWG	minimal maximal			min	imal	maxi	imal		
[mm]	[mm ²]	[Circ. Mils]		[mm ²]	[inch]	[mm ²]	[inch]	[mm ²]	[inch]	[mm ²]	[inch]	
0.063	0.0031	6.1521	42	0.066	0.0260	0.076	.00299	0.073	.00287	0.083	0.00327	
0.067	0.0035	6.9581		0.071	.00280	0.080	.00315	0.076	.00299	0.088	.00346	
0.071	0.0040	7.8137	41	0.075	.00295	0.084	.00331	0.080	.00315	0.091	.00358	
0.075	0.0044	8.7189		0.079	.00311	0.089	.00350	0.086	.00339	0.095	.00374	
0.080	0.0050	9.9202	40	0.084	.00331	0.094	.00370	0.091	.00358	0.101	.00398	
0.085	0.0057	11.1989		0.090	.00354	0.100	.00394	0.097	.00382	0.107	.00421	
0.090	0.0064	12.5552	39	0.095	.00374	0.105	.00413	0.102	.00402	0.113	.00445	
0.095	0.0071	13.9890		0.100	.00394	0.111	.00437	0.108	.00425	0.119	.00469	
0.100	0.0079	15.5003	38	0.105	.00413	0.117	.00461	0.113	.00445	0.125	.00492	
0.106	0.0088	17.4161		0.112	.00441	0.123	.00484	0.120	.00472	0.132	.00520	
0.112	0.0099	19.4435	37	0.118	.00465	0.130	.00512	0.126	.00496	0.139	.00547	
0.118	0.0109	21.5826		0.125	.00492	0.136	.00535	0.134	.00528	0.145	.00571	
0.125	0.0123	24.2192	36	0.132	.00520	0.144	.00567	0.141	.00555	0.154	.00606	
0.132	0.0137	27.0077		0.140	.00551	0.152	.00598	0.150	.00591	0.162	.00638	
0.140	0.0154	30.3805	35	0.148	.00583	0.160	.00630	0.158	.00622	0.171	.00673	
0.150	0.0177	34.8756		0.159	.00626	0.171	.00673	0.170	.00669	0.182	.00717	
0.160	0.0201	39.6807	34	0.169	.00665	0.182	.00717	0.180	.00709	0.194	.00764	
0.170	0.0227	44.7958		0.180	.00709	0.194	.00764	0.192	.00756	0.205	.00807	
0.180	0.0254	50.2208	33	0.190	.00748	0.204	.00803	0.202	.00795	0.217	.00854	
0.190	0.0284	55.9559		0.201	.00791	0.216	.00850	0.214	.00843	0.228	.00898	
0.200	0.0314	62.0010	32	0.211	.00831	0.226	.00890	0.224	.00882	0.239	.00941	
0.212	0.0353	69.6644		0.224	.00882	0.240	.00945	0.238	.00937	0.254	.01000	
0.224	0.0394	77.7741	31	0.236	.00929	0.252	.00992	0.250	.00984	0.266	.01047	
0.236	0.0437	86.3302		0.249	.00980	0.267	.01051	0.264	.01039	0.283	.01114	
0.250	0.0491	96.8766	30	0.263	.01035	0.281	.01106	0.278	.01094	0.297	.01169	
0.265	0.0552	108.8506		0.279	.01098	0.297	.01169	0.294	.01157	0.314	.01236	
0.280	0.0616	121.5220	29	0.294	.01157	0.312	.01228	0.309	.01217	0.329	.01295	
0.300	0.0707	139.5023		0.315	.01240	0.334	.01315	0.331	.01303	0.352	.01386	
0.315	0.0779	153.8013	28	0.330	.01299	0.349	.01374	0.346	.01362	0.367	.01445	
0.335	0.0881	173.9517		0.351	.01382	0.372	.01465	0.369	.01453	0.391	.01539	
0.355	0.0990	195.3420	27	0.371	.01461	0.392	.01543	0.389	.01531	0.411	.01618	
0.375	0.1104	217.9724		0.391	.01539	0.414	.01630	0.410	.01614	0.434	.01709	
0.400	0.1257	248.0042	26	0.416	.01638	0.439	.01728	0.435	.01713	0.459	.01807	
0.425	0.1419	279.9734		0.442	.01740	0.466	.01835	0.462	.01819	0.488	.01921	
0.450	0.1590	313.8803	25	0.467	.01839	0.491	.01933	0.487	.01917	0.513	.02020	
0.475	0.1772	349.7246		0.494	.01945	0.519	.02043	0.515	.02028	0.541	.02130	
0.500	0.1963	387.5065	24	0.519	.02043	0.544	.02142	0.540	.02126	0.566	.02228	

Diameters of enamelled wires according to IEC 60317-0-1

Round High Frequency Litz Wires

Dimensions:

Sections up to 2.000 mm² max. Max. Diameter 65 mm Diameter of a strand: from 0.032 mm to 4.00 mm



(No stock item)

Profiled High Frequency Litz Wires

Sometimes it is necessary to profile the litz wires with a rectangular or quadratic instead of a round section because of lack of space. The following has to be taken into consideration.

Please always indicate the measure which has to be hold absolutely before an additional insulation!

Dimensions:Sections up to 470 mm² max.Profiles:40 x 25 mm max.



(No stock item)

Single Insulated Litz Wire with FEP or ETFE Insulation

The product: litz wire is made of several strands of enamelled magnet wire that are bunched or stranded together. It is used where losses caused by the skin- and proximity effect in a single wire are too high due to the operating frequency. At the same time the operating temperature is reduced by its use. Litz wire has much greater mechanical flexibility than a single wire with the same cross-section.

FEP	ETFE							
Condu	1						L+0	
NEMA MW 80C	NEMA MW 80C	400	ications					CAPE -
Temperatu	re Rating	Аррі	Color					
155	°C		SUIdi	lomn ho	llast			11000
Tensile St	rength		Fluorescent	. lamp bai	lidsi nation ave	toma		
20'000 N/mm ²	45000 N/mm ²			s identific	ation sys	lems		
Volta	age		Magnotic lo	eating ele	ements			
(00)/	UL: 600 V		Dowor cup	aung				
600 V	VDE: 1000 V	Power supply units Dravingity quitebox						
Insula	ation		Proximity SV Poposting of	vitches				
FEP	DuPont ETFE Tefzel®		Transformo	uiis re and ch	oking coi	lc.		
			Ultrasonic g	rs and ch generator	oking coi S	15		
U LR	L approval	•	Renewable	energy				
UL60950-1 (ec	I. 2), Annex U							
system approvals U	L 1 4 4 6 KX 1 - 2, class							
F		Equiv	CoreOD	Soction	No	ANNC of	Nominal O.D.	Suggested Operating
Item Number	Item Number		[mm]	Erequency				
HESYYI 825/44EY-3	HESYYI 825/44EY-3	13	1.67	400 - 850 kHz				
HESYYI 120/38EY-2	HESYYI 120/38TY-2	15	0.97	1.74	120	28	1.50	50 - 100 kHz
HESYYI 120/38EY-3	HESYYI 120/38TY-3	15	0.97	1.24	120	38	1.54	50 - 100 kHz
HESYYI 550/44EY-2	HESYYI 550/44TY-2	15	1 11	1.24	550	14	1.55	400 - 850 kHz
		16	1.11	1.42	550	44	1.00	
	HFSXXL550/441X-3	10	1.11	1.42	550	44	1.90	400-030 KHZ
HFSXXL100/38FX-2	HFSXXL100/381X-2	16	1.03	1.03	100	38	1.49	50 - 100 KHZ
HFSXXL100/38FX-3	HFSXXL100/381X-3	16	1.03	1.03	100	38	1.47	50 - 100 KHZ
		18	0.81	0.72	/	28	1.15	60 HZ- T KHZ
		18	0.81	0.72		28	1.20	60 Hz - 1 KHz
HFSXXL66/38FX-2	HESXXL66/38TX-2	18	0.54	0.68	66	38	1.17	50 - 100 kHz
HFSXXL66/38FX-3	HFSXXL66/381X-3	18	0.54	0.68	66	38	1.22	50 - 100 KHZ
HFSXXL360/44FX-2	HFSXXL360/441X-2	18	0.73	0.93	360	44	1.52	400 - 850 KHz
		18	0.73	0.93	360	44	1.5/	400 - 850 KHZ
		19	0.40	0.51	20	34	1.02	20 KHZ
		19	0.40	0.51	20	34	1.07	20 KHZ
		20	0.35	0.45		30	0.94	1- 10 KHZ
		20	0.35	0.45	/	30	0.99	1- 10 KHZ
		21.5	0.24	0.31	19	36	0.81	20 - 50 KHZ
	HESXXL19/361X-3	21.5	0.24	0.31	19	36	0.8/	20 - 50 kHz
HESXXL0//32FX-2		21.5	0.23	0.29	/	32	0./8	10 kHz
HFSXXL07/32FX-3	HESXXL07/32TX-3	21.5	0.23	0.29	7	32	0.83	10 kHz
HFSXXL40/40FX-2	HFSXXL40/40TX-2	22	0.20	0.25	40	40	0.75	100 - 200 kHz
HFSXXL230/44FX-2	HFSXXL230/44TX-2	22	0.47	0.60	230	44	1.23	400 - 850 kHz
HFSXXL230/44FX-3	HFSXXL230/44TX-3	3 22 0.47 0.60 230 44 1.28 400 - 850 kHz						

Notes:

All wires undergo certain tolerances and therefore the dimensions indicated have to be considered as guidance values. The sizes shown in the table above represent only a choice. Please contact us if different sizes or tolerances are required.



Double Insulated Litz Wire with FEP or ETFE Insulation (No stock item)

The product: Litz wire is made of several strands of enamelled magnet wire that are bunched or stranded together. It is used where losses caused by the skin- and proximity effect on a single wire are too high due to the operating frequency. At the same time the operating temperature is reduced by its use. Litz wire has much greater mechanical flexibility than a single wire with the same cross section.

FEP	ETFE									
Conductor								ST.S		
NEMA MW 80C	NEMA MW 80C		Applica	itions:				1000		
Temperat	ure Rating	Solar Eluorescent lamp ballast								
15	5 °C	Hearing aids Identification systems								
Tensile S	trength		• Indu	ctive heating e	lements					
20.000 N/mm ²	45.000 N/mm ²	Magnetic loading								
Volt	tage		• Powe	er supply units						
600 V	UL: 600 V		Proxi	mity switches						
Insul	ation	-	• Trans	sformers and c	hoking c	oils				
FEP	DuPont ETFE Tefzel®		• Ultra	sonic generate	ors	0110				
94 UL a	approval	-	• Rene	wable energy						
UL60950-1 (e	d. 2), Annex U									
system approvals	UL1446 RXT-2, class F		-		1			1		
Item Number	Item Number	Equiv.	Core	Section	No.	AWG of	Nominal	Suggested Operating		
item Number	nem number	AWG	[mm]	[mm ²]	Strands	Strands	[mm]	Frequency		
HFDXXL825/44FXX-3	HFDXXL825/44TXX-3	13	2.14	1.67	2.45	400 - 850 kHz				
HFDXXL120/38FXX-2	HFDXXL120/38TXX-2	15	1.44	0.97	120	38	1.64	50 - 100 kHz		
HFDXXL120/38FXX-3	HFDXXL120/38TXX-3	15	1.44	0.97	120	38	1.75	50 - 100 kHz		
HFDXXL550/44FXX-3	HFDXXL550/44TXX-3	16	1.75	1.11	550	44	2.06	400 - 850 kHz		
HFDXXL100/38FXX-2	HFDXXL100/38TXX-2	16	1.31	0.81	100	38	1.52	50 -100 kHz		
HFDXXL100/38FXX-3	HFDXXL100/38TXX-3	16	1.31	0.81	100	38	1.62	50 - 100 kHz		
HFDXXL07/28FXX-2	HFDXXL07/28TXX-2	18	1.05	0.56	7	28	1.25	60 Hz -1 kHz		
HFDXXL07/28FXX-3	HFDXXL07/28TXX-3	18	1.05	0.56	7	28	1.35	60 Hz -1 kHz		
HFDXXL66/38FXX-2	HFDXXL66/38TXX-2	18	1.07	0.54	66	38	1.27	50 - 100 kHz		
HFDXXL66/38FXX-3	HFDXXL66/38TXX-3	18	1.07	0.54	66	38	1.37	50 - 100 kHz		
HFDXXL360/44FXX-2	HFDXXL360/44TXX-2	18	1.46	0.73	360	44	1.62	400 - 850 kHz		
HFDXXL360/44FXX-3	HFDXXL360/44TXX-3	18	1.46	0.73	360	44	1.72	400 - 850 kHz		
HFDXXL20/34FXX-2	HFDXXL20/34TXX-2	19	0.91	0.40	20	34	1.12	20 kHz		
HFDXXL20/34FXX-3	HFDXXL20/34TXX-3	19	0.91	0.40	20	34	1.22	20 kHz		
HFDXXL07/30FXX-2	HFDXXL07/30TXX-2	20	0.84	0.35	7	30	1.04	1-10 kHz		
HFDXXL07/30FXX-3	HFDXXL07/30TXX-3	20	0.84	0.35	7	30	1.14	1 -10 kHz		
HFDXXL19/36FXX-2	HFDXXL19/36TXX-2	21.5	0.71	0.24	19	36	0.92	20 - 50 kHz		
HFDXXL19/36FXX-3	HFDXXL19/36TXX-3	21.5	0.71	0.24	19	36	1.02	20 - 50 kHz		
HFDXXL07/32FXX-2	HFDXXL07/32TXX-2	21.5	0.68	0.23	7	32	0.88	10 kHz		
HFDXXL07/32FXX-3	HFDXXL07/32TXX-3	21.5	0.68	0.23	7	32	0.98	10 kHz		
HFDXXL40/40FXX-2	HFDXXL40/40TXX-2	22	0.64	0.20	40	40	0.85	100 - 200 kHz		
HFDXXL230/44FXX-2	HFDXXL230/44TXX-2	22	1.13	0.47	230	44	1.33	400 - 850 kHz		
HFDXXL05/32FXX-2	HFDXXL05/32TXX-2	23	0.57	0.16	5	32	0.78	10 kHz		

Notes:

All wires undergo certain tolerances and therefore the dimensions indicated have to be considered as guidance values. The sizes shown in the table above represent only a choice. Please contact us if different sizes or tolerances are required.



(No stock item)

Triple Insulated Litz Wire with FEP or ETFE Insulation

The product: Litz wire is made of several strands of enamelled magnet wire that are bunched or stranded together. It is used where losses caused by the skin-and proximity effect on a single wire are too high due to the operating frequency. At the same time the operating temperature is reduced by its use. Litz wire has much greater mechanical flexibility than a single wire with the same cross-section.

FEP	ETFE								
Cond	Conductor							57.5	
NEMA MW 80C	NEMA MW 80C	Applications. Solar							
Temperat	ure Rating	Fluorescent lamp ballast							
15	5 °C	• Hearing aids							
Tensile	Strength	Identification systems							
20.000 N/mm ²		Inductive heating elements							
Vol	tage		 Magnetic Deverse 	loading					
600 V	UL: 600 V	Power supply units Provimity switches							
Insul	ation		Repeating	g coils					
FEP	DuPont ETFE Tefzel®		Transform	ners and c	hoking co	ils			
91 UL a	pproval		 Ultrasoni 	c generato	ors				
UI 60950-1 (e	d. 2). Annex U		 Renewab 	le energy					
system approvals U	L1446 RXT-2, class F								
Item Number	Item Number	Equiv.	Core O.D.	Section	No.	AWG of	Nominal O.D.	Suggested Operating	
		AWG	[mm]	[mm²]	Strands	Strands	[mm]	Frequency	
HFTXXL350/38FXXX-2	HFTXXL350/38TXXX-2	12	2.83	3.61	350	38	2.71	400 - 850 kHz	
HFTXXL350/38FXXX-3	HFTXXL350/38TXXX-3	12	2.83	3.61	350	38	2.87	400 - 850 kHz	
HFTXXL825/44FXXX-2	HFTXXL825/44TXXX-2	13	1.67	2.13	825	44	2.45	400 - 850 kHz	
HFTXXL825/44FXXX-3	HFTXXL825/44TXXX-3	13	1.67	2.13	825	44	2.60	400 - 850 kHz	
HFTXXL120/38FXXX-2	HFTXXL120/38TXXX-2	15	0.97	1.24	120	38	1.74	50 - 100 kHz	
HFTXXL120/38FXXX-3	HFTXXL120/38TXXX-3	15	0.97	1.24	120	38	1.90	50 - 100 kHz	
HFTXXL550/44FXXX-2	HFTXXL550/44TXXX-2	16	1.11	1.42	550	44	2.05	400 - 850 kHz	
HFTXXL550/44FXXX-3	HFTXXL550/44TXXX-3	16	1.11	1.42	550	44	2.21	400 - 850 kHz	
HFTXXL66/38FXXX-2	HFTXXL66/38TXXX-2	18	0.54	0.68	66	38	1.4	50 - 100 kHz	
HFTXXL66/38FXXX-3	HFTXXL66/38TXXX-3	18	0.54	0.68	66	38	1.6	50 - 100 kHz	
HFTXXL108/40FXXX-2	HFTXXL108/40TXXX-2	18	0.53	0.67	108	40	1.36	100 - 200 kHz	
HFTXXL108/40FXXX-3	HFTXXL108/40TXXX-3	18	0.53	0.67	108	40	1.5	100 - 200 kHz	
HFTXXL360/44FXXX-2	HFTXXL360/44TXXX-2	18	0.73	0.93	360	44	1.72	400 - 850 kHz	
HFTXXL360/44FXXX-3	HFTXXL360/44TXXX-3	18	0.73	0.93	360	44	1.87	400 - 850 kHz	
HFTXXL07/28FXXX-2	HFTXXL07/28TXXX-2	20	0.56	0.72	7	28	1.35	60 Hz - 1 kHz	
HFTXXL07/28FXXX-3	HFTXXL07/28TXXX-3	20	0.56	0.72	7	28	1.51	60 Hz - 1 kHz	
HFTXXL19/36FXXX-2	HFTXXL19/36TXXX-2	21	0.24	0.31	19	36	1.0	20 - 50 kHz	
HFTXXL19/36FXXX-3	HFTXXL19/36TXXX-3	21	0.24	0.31	19	36	1.17	20 - 50 kHz	
HFTXXL230/44FXXX-2	HFTXXL230/44TXXX-2	22	0.47	0.59	230	44	1.43	400 - 850 kHz	
HFTXXL230/44FXXX-3	HFTXXL230/44TXXX-3	22	0.47	0.59	230	44	1.59	400 - 850 kHz	
HFTXXL19/34FXXX-2	HFTXXL19/34TXXX-2	22	0.38	0.49	19	34	1.20	20 kHz	
HFTXXL19/34FXXX-3	HFTXXL19/34TXXX-3	22	0.38	0.49	19	34	1.35	20 kHz	
HFTXXL40/40FXXX-2	HFTXXL40/40TXXX-2	24	0.20	0.25	40	40	0.95	100 - 200 kHz	
HFTXXL07/32FXXX-2	HFTXXL07/32TXXX-2	24	0.23	0.29	7	32	0.98	10 kHz	

Notes:

All wires undergo certain tolerances and therefore the dimensions indicated have to be considered as guidance values. The sizes shown in the table above represent only a choice. Please contact us if different sizes or tolerances are required.



Triple Insulated TCA3 Litz Wire (Modified ETFE)

High Frequency Litz Wires

The product: Litz wire is made of several strands of enamelled magnet wire that are bunched or stranded together. It is used where losses caused by the skin-and proximity effect on a single wire are too high due to the operating frequency. At the same time the operating temperature is reduced by its use. Litz wire has much greater mechanical flexibility than a single wire with the same cross-section.

Conduct	or		NEMA				
Insulatio	on						
Temperature	Temperature Rating			5 ℃]		
Voltag	UL: 1500 V fo medical equ	or electronic ipment VDE	equipment L : 1000 V	JL: 707 V for			
Tensile Stre	ength		45.000) N/mm²		-	
🔊 UL app	ا system	JL60950-1 (e n approvals l	ed. 2), Annex JL1446 RXT-2	U 2, class F			
Item Number	Equiv. AWG	Core O.D. . [mm]	Section [mm²]	No. Strands	AWG of Strands	Nominal O.D. [mm]	Suggested Operating Frequency
HFTCA3 15/30	16	1.29	0.76	15	30	1.52	1 - 10 kHz
HFTCA3 7/30	22	0.84	0.35	7	30	1.07	1 - 10 kHz
HFTCA3 40/40	24	0.65	0.25	40	40	0.87	100 - 200 kHz
HFTCA3 7/32	24	0.68	0.20	7	32	0.91	10 kHz
HFTCA3 19/40	25	0.45	0.09	19	40	0.68	100 - 200 kHz
HFTCA3 5/32	26	0.57	0.16	5	32	0.80	10 kHz
HFTCA3 16/44	32	0.20	0.03	16	44	0.43	400 - 850 kHz

Notes:

All wires undergo certain tolerances and therefore the dimensions indicated have to be considered as guidance values. The sizes shown in the table above represent only a choice. Please contact us if different sizes or tolerances are required.



(No stock item)