

ETFE, FEP, PFA

Cables





ETFE, FEP, PFA Cables







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You will find halogen-free cables for use in the shipbuilding industry in chapter A
 You will find more FEP and PFA cables in chapter L

ETFE, FEP, PFA Cables

Applications

■ Applications ETFE cables

These cables are used for example in news technologies if high demands for resistance against chemicals and solvents must be fulfilled. Further advantages are the low and high temperature resistance as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

Li7Ybl

Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

■ Applications FEP cables

These cables are used for example in news technologies if high demands for resistance against chemicals and solvents must be fulfilled. Compared to ETFE, FEP has a slightly better resistance. Further advantages are the excellent temperature resistance and flexibility at cold temperatures as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

Li6Ybl

Li6Yvz

TD 801 F

TD 833 CF

TD 838 CF TP

TA 866 F

TA 867 CF

Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

BL TA 180 C

Our type BL TA 180 C is suitable for extreme environmental conditions. This cable type is designed for use in engine rooms of ships for example as connection cable for the control of marine diesel engines. It is high temperature resistant and shows a very good resistance against oils and chemicals.

■ Applications PFA cables

These cables are used for example in news technologies if excellent resistance against chemicals and solvents is requested. Further advantages are the excellent temperature resistance and flexibility at low temperatures as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

LiPFAvn

Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

■ You will find further information about the safe application of cables in chapter N

ETFE, FEP, PFA Cables

Selection table

		Cable type													
		375 V		375 V		375 V		900 V		900 V		900 V		900 V	
		Li6Ybl	Li6Yyz	LiPFAvn	Li7Ybl	Li6Ybl	Li6Yyz	LiPFAvn	TD 801 F	TD 833 CF	TD 838 CF TP	TA 866 F	TA 867 CF	BL TA 180 C	
Basic construction	ETFE cable				●										
	FEP cable	●	●			●	●		●	●	●	●	●	●	●
	PFA cable			●				●							
	Single conductor	●	●	●	●	●	●	●							
	Data cable								●	●	●				
	Connection cable											●	●	●	●
	Copper strands acc. to ASTM B 286	●	●	●	●	●	●	●	●	●	●				
	Copper strands acc. to IEC 60228, VDE 0295, class 5											●	●	●	●
	Colour code with reference to DIN 47100								●	●	●				
	Colour code acc. to HD 308											●	●		
	Colour code acc. to EN 50334 + VDE 0293-334														●
	Screened									●	●		●	●	
	Twisted pairs										●				
Temperature range fixed laying*	+260 °C			●				●							
	+250 °C			●				●							
	+200 °C			●				●							
	+180 °C	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	+150 °C	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	+135 °C	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 90 °C	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Voltage	Peak operating voltage max. 375 V	●	●	●					●	●	●				
	Peak operating voltage max. 900 V				●	●	●	●							
	Nominal voltage U ₀ /U 300/500 V											●	●	●	●
	Voltage UL 600 V	●	●	●		●	●	●	●	●	●	●	●	●	●
	Voltage cUL 600 V								●	●	●	●	●	●	●
	Testing voltage 2000 V	●	●	●					●	●	●	●	●	●	●
Testing voltage 2500 V				●	●	●	●								
Standards	UL recognized	●	●	●		●	●	●	●	●	●	●	●	●	●
	cUL recognized								●	●	●	●	●	●	●
	Approvals: DNV														●
	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: UL FT1								●	●	●	●	●	●	●
	Fire performance: UL FT2	●	●	●		●	●	●	●	●	●	●	●	●	●
	Fire performance: no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A														●
Characteristics	Chemical resistance	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Oil resistance acc. to UL standard 758	A	A	A	A	A	A	A	A	A	A	A	A		
	Oil and fuel resistance														A

from
 to

limited time of use

A = very good

*The temperature range for flexible application is mentioned on the corresponding catalogue page

ETFE, FEP, PFA Cables

FEP and PFA insulated stranded hook-up wire

Li6Ybl, Li6Yvz, LiPFAvn - with extended temperature range

375 V



Construction:

Conductor:	Li6Ybl: bare copper strands
	Li6Yvz: tinned copper strands
	LiPFAvn: nickel-plated copper strands acc. to ASTM B 286
Insulation:	Li6Ybl, Li6Yvz: FEP, 6YI1 acc. to VDE 0207-6
	LiPFAvn: PFA, 51Y11 acc. to VDE 0207-6

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL recognized

Technical data:

Peak operating voltage:	max. 375 V		
Voltage UL:	600 V		
Testing voltage:	2000 V		
Installation:	for one single bend the inner bending radius must not be smaller than 0,5 x outer diameter of the insulated strands		
Radiation resistance:	FEP: 1 x 10 ⁷ cJ/kg	PFA: 1 x 10 ⁶ cJ/kg	
Temperature range	FEP:	PFA:	
	<i>fixed laying:</i>	-90/+180 °C	-90/+250 °C
	<i>flexible application:</i>	-55/+180 °C	-55/+250 °C
	<i>limited time of use:</i>	+200 °C	+260 °C
	UL: up to +150 °C	up to +250 °C	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT2		
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days		
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“		

Li6Ybl

item no. bare copper FEP	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3339 .. 28*	28/7	0,127	0,70	0,9	1,4
3339 .. 26*	26/7	0,160	0,80	1,4	2,0
3339 .. 24*	24/7	0,203	0,93	2,2	2,9
3339 .. 22*	22/7	0,254	1,08	3,4	4,2
3339 .. 20*	20/7	0,320	1,28	5,4	6,3

* ETFE, FEP, PFA colour code, figures 5 and 6 of item no.:

01 = black	05 = yellow	09 = orange
02 = blue	06 = green	11 = red
03 = brown	07 = violet	15 = nature
04 = grey	08 = white	

Li6Yvz

item no. tinned copper FEP	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3340 .. 28*	28/7	0,127	0,70	0,9	1,4
3340 .. 26*	26/7	0,160	0,80	1,4	2,0
3340 .. 24*	24/7	0,203	0,93	2,1	2,9
3340 .. 22*	22/7	0,254	1,08	3,4	4,2
3340 .. 20*	20/7	0,320	1,28	5,4	6,3
3340 .. 16*	16/19	0,287	1,79	11,8	12,7

LiPFAvn

item no. nickel-plated copper / PFA	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3344 .. 28*	28/7	0,127	0,71	0,9	1,4
3344 .. 26*	26/7	0,160	0,80	1,4	2,0
3344 .. 24*	24/7	0,203	0,93	2,2	2,9
3344 .. 22*	22/7	0,254	1,08	3,4	4,2
3344 .. 20*	20/7	0,320	1,28	5,4	6,3

Other dimensions and colours are possible on request.
ETFE insulated strands on request.

ETFE, FEP, PFA Cables

ETFE, FEP and PFA insulated stranded hook-up wire

Li7Ybl, Li6Ybl, Li6Yvz, LiPFAvn - with extended temperature range

900 V



Construction:

Conductor:	Li7Ybl:	bare copper strands
	Li6Ybl:	bare copper strands
	Li6Yvz:	tinned copper strands
	LiPFAvn:	nickel-plated copper strands acc. to ASTM B 286
Insulation:	Li7Ybl:	ETFE, 7YI1 acc. to VDE 0207-6
	Li6Ybl, Li6Yvz:	FEP, 6YI1 acc. to VDE 0207-6
	LiPFAvn:	PFA, 51YI1 acc. to VDE 0207-6

Technical data:

Peak operating voltage:	max. 900 V			
Voltage UL:	FEP + PFA: 600 V			
Testing voltage:	2500 V			
Installation:	for one single bend the inner bending radius must not be smaller than 0,5 x outer diameter of the insulated strands			
Radiation resistance:	ETFE: 2 x 10 ⁸ cJ/kg	FEP: 1 x 10 ⁷ cJ/kg	PFA: 1 x 10 ⁶ cJ/kg	
Temperature range	ETFE:	FEP:	PFA:	
	<i>fixed laying:</i>	-90/+135 °C	-90/+180 °C	-90/+250 °C
	<i>flexible application:</i>	-55/+135 °C	-55/+180 °C	-55/+250 °C
<i>limited time of use:</i>	+150 °C	+200 °C	+260 °C	
UL:	up to +150 °C			
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, Li6Ybl, Li6Yvz, LiPFAvn: UL FT2			
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days			
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds			
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“			

Outstanding features:

ETFE:

- » high resistance against chemicals and solvents
- » low and high temperature resistance
- » good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics

FEP + PFA:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL recognized

* ETFE, FEP, PFA colour code, figures 5 and 6 of item no.:

01 = black	05 = yellow	09 = orange
02 = blue	06 = green	11 = red
03 = brown	07 = violet	15 = nature
04 = grey	08 = white	

Li7Ybl

item no. bare copper ETFE	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3345 .. 28*	28/7	0,127	0,93	0,9	1,8
3345 .. 26*	26/7	0,160	1,03	1,3	2,4
3345 .. 24*	24/7	0,203	1,16	2,2	3,4
3345 .. 22*	22/7	0,254	1,31	3,5	4,8
3345 .. 20*	20/7	0,320	1,51	5,4	7,0
3345 .. 18*	18/19	0,254	1,78	9,2	11,0
3345 .. 16*	16/19	0,287	1,94	11,8	14,0
3345 .. 14*	14/19	0,361	2,30	18,7	21,0
3345 .. 12*	12/19	0,455	2,76	29,7	32,0

Li6Yvz

item no. tinned copper FEP	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3349 .. 28*	28/7	0,127	0,93	0,9	2,0
3349 .. 26*	26/7	0,160	1,03	1,3	2,7
3349 .. 24*	24/7	0,203	1,16	2,2	3,7
3349 .. 22*	22/7	0,254	1,31	3,5	5,2
3349 .. 20*	20/7	0,320	1,51	5,4	7,5
3349 .. 18*	18/19	0,254	1,78	9,2	12,0
3349 .. 16*	16/19	0,287	1,94	11,8	14,0
3349 .. 14*	14/19	0,361	2,30	18,7	22,0
3349 .. 12*	12/19	0,455	2,76	29,7	33,0

Li6Ybl

item no. bare copper FEP	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3348 .. 28*	28/7	0,127	0,93	0,9	2,0
3348 .. 26*	26/7	0,160	1,03	1,3	2,7
3348 .. 24*	24/7	0,203	1,16	2,2	3,7
3348 .. 22*	22/7	0,254	1,31	3,5	5,2
3348 .. 20*	20/7	0,320	1,51	5,4	7,5
3348 .. 18*	18/19	0,254	1,78	9,2	12,0
3348 .. 16*	16/19	0,287	1,94	11,8	14,0
3348 .. 14*	14/19	0,361	2,30	18,7	22,0
3348 .. 12*	12/19	0,455	2,76	29,7	33,0

LiPFAvn

item no. nickel-plated copper / PFA	AWG	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
3353 .. 28*	28/7	0,127	0,96	0,9	2,0
3353 .. 26*	26/7	0,160	1,06	1,4	2,7
3353 .. 24*	24/7	0,203	1,17	2,2	3,6
3353 .. 22*	22/7	0,254	1,34	3,4	5,1
3353 .. 20*	20/7	0,320	1,54	5,4	7,3
3353 .. 18*	18/19	0,254	1,81	9,2	11,0
3353 .. 16*	16/19	0,287	1,97	11,8	14,0

Other dimensions and colours are possible on request.

ETFE, FEP, PFA Cables

TD 801 F

FEP data cable with extended temperature range

+180 °C

AWG 22/3c   AWM Style 21618 III A/B 150°C 600V FT1 FT2 3801-0322 



marking example:

SAB BRÖCKSKES · D-VIERSEN · TD 801 F AWG 22/3c   AWM Style 21618 III A/B 150°C 600V FT1 FT2 3801-0322 

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Colour code:	with reference to DIN 47100
Stranding:	in layers
Sheath material:	FEP, 6YM1 acc. to VDE 0207-6
Sheath colour:	white (RAL 1013)

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL/cUL recognized

Technical data:

Peak operating voltage:	max. 375 V	
Voltage UL/cUL:	600 V	
Testing voltage:	core/core 2000 V	
Min. bending radius:	7,5 x d	
Radiation resistance:	1 x 10 ⁷ cJ/kg	
Temperature range	DIN VDE	UL/cUL: up to +150 °C
fixed laying:	-90/+180 °C	
flexible application:	-55/+180 °C	
limited time of use:	+200 °C	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1 FT2	
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days	
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“	

item no.	dimension	nominal single wire ϕ mm	max. outer- ϕ mm	copper figure kg/km	cable weight \approx kg/km
38010228	2 x AWG 28/7	0,127	2,0	1,8	6,3
38010226	2 x AWG 26/7	0,160	2,2	2,8	7,9
38010224	2 x AWG 24/7	0,203	2,5	4,2	10,3
38010222	2 x AWG 22/7	0,254	2,8	6,8	13,6
38010220	2 x AWG 20/7	0,320	3,2	10,8	18,6
38010328	3 x AWG 28/7	0,127	2,1	2,7	7,9
38010326	3 x AWG 26/7	0,160	2,4	4,2	9,9
38010324	3 x AWG 24/7	0,203	2,6	6,3	13,4
38010322	3 x AWG 22/7	0,254	2,9	10,2	18,0
38010320	3 x AWG 20/7	0,320	3,4	16,2	25,5
38010428	4 x AWG 28/7	0,127	2,3	3,6	9,7
38010426	4 x AWG 26/7	0,160	2,5	5,6	12,7
38010424	4 x AWG 24/7	0,203	2,9	8,4	16,9
38010422	4 x AWG 22/7	0,254	3,2	13,6	22,8
38010420	4 x AWG 20/7	0,320	3,7	21,6	32,2
38010528	5 x AWG 28/7	0,127	2,5	4,5	11,7
38010526	5 x AWG 26/7	0,160	2,8	7,0	15,2
38010524	5 x AWG 24/7	0,203	3,1	10,5	21,0

item no.	dimension	nominal single wire ϕ mm	max. outer- ϕ mm	copper figure kg/km	cable weight \approx kg/km
38010522	5 x AWG 22/7	0,254	3,5	17,0	28,3
38010520	5 x AWG 20/7	0,320	4,4	27,0	42,4
38010624	6 x AWG 24/7	0,203	3,5	12,6	25,0
38010728	7 x AWG 28/7	0,127	2,7	6,3	14,8
38010726	7 x AWG 26/7	0,160	3,0	9,8	19,4
38010724	7 x AWG 24/7	0,203	3,4	14,7	26,6
38010722	7 x AWG 22/7	0,254	4,1	23,8	38,6
38010720	7 x AWG 20/7	0,320	4,5	37,8	54,1
38011028	10 x AWG 28/7	0,127	3,4	9,0	20,4
38011026	10 x AWG 26/7	0,160	4,0	14,0	27,4
38011024	10 x AWG 24/7	0,203	4,5	21,0	39,0
38011022	10 x AWG 22/7	0,254	5,1	34,0	55,2
38011020	10 x AWG 20/7	0,320	5,9	54,0	78,3
38011228	12 x AWG 28/7	0,127	3,5	10,8	23,4
38011226	12 x AWG 26/7	0,160	4,0	16,8	32,6
38011224	12 x AWG 24/7	0,203	4,7	25,2	45,3
38011222	12 x AWG 22/7	0,254	5,3	40,8	64,2
38011220	12 x AWG 20/7	0,320	6,3	64,8	92,0

Other dimensions and colours are possible on request.
ETFE and PFA are possible on request.

ETFE, FEP, PFA Cables

TD 833 CF

FEP data cable with extended temperature range and overall copper screen

+180 °C

V Style 21618 I/II A/B 150°C 600V FT1 FT2 3833-0320 CE



marking example:

SAB BRÖCKSKES · D-VIERSEN · TD 833 CF AWG 20/3c • AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3833-0320 CE

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Colour code:	with reference to DIN 47100
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	FEP, 6YM1 acc. to VDE 0207-6
Sheath colour:	white (RAL 1013)

Technical data:

Peak operating voltage:	max. 375 V	
Voltage UL/cUL:	600 V	
Testing voltage:	core/core	2000 V
	core/screen	2000 V
Min. bending radius:	7,5 x d	
Radiation resistance:	1 x 10 ⁷ cJ/kg	
Temperature range	DIN VDE	UL/cUL: up to +150 °C
fixed laying:	-90/+180 °C	
flexible application:	-55/+180 °C	
limited time of use:	+200 °C	

Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1 FT2

Oil resistance: very good acc. to UL standard 758, at 80 °C after 80 days

Chem. resistance: very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds

Absence of harmful substances: acc. to RoHS directive of the European Union, see chapter N „Technical data“

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL/cUL recognized

item no.	dimension	nominal single wire Ø mm	approx. outer-Ø mm	copper figure kg/km	cable weight ≈ kg/km
38330228	2 x AWG 28/7	0,127	2,4	8,8	12,3
38330226	2 x AWG 26/7	0,160	2,7	13,0	16,1
38330224	2 x AWG 24/7	0,203	3,1	14,5	18,8
38330222	2 x AWG 22/7	0,254	3,3	17,1	21,9
38330220	2 x AWG 20/7	0,320	3,7	24,6	29,3
38330328	3 x AWG 28/7	0,127	2,6	9,7	13,9
38330326	3 x AWG 26/7	0,160	2,8	14,4	18,2
38330324	3 x AWG 24/7	0,203	3,1	16,6	21,6
38330322	3 x AWG 22/7	0,254	3,5	20,6	26,6
38330320	3 x AWG 20/7	0,320	4,0	30,1	37,5
38330428	4 x AWG 28/7	0,127	2,8	13,8	17,8
38330426	4 x AWG 26/7	0,160	3,1	15,9	20,6
38330424	4 x AWG 24/7	0,203	3,3	18,4	25,0
38330422	4 x AWG 22/7	0,254	3,8	27,4	33,4
38330420	4 x AWG 20/7	0,320	4,3	35,6	44,5
38330528	5 x AWG 28/7	0,127	3,0	14,8	19,9
38330526	5 x AWG 26/7	0,160	3,5	17,4	24,5
38330524	5 x AWG 24/7	0,203	3,8	24,4	32,0
38330522	5 x AWG 22/7	0,254	4,2	30,9	40,5
38330520	5 x AWG 20/7	0,320	4,8	42,9	54,4

item no.	dimension	nominal single wire Ø mm	approx. outer-Ø mm	copper figure kg/km	cable weight ≈ kg/km
38330622	6 x AWG 22/7	0,254	4,6	34,5	47,2
38330620	6 x AWG 20/7	0,320	5,2	48,4	64,0
38330728	7 x AWG 28/7	0,127	3,2	16,6	23,3
38330726	7 x AWG 26/7	0,160	3,5	20,2	28,1
38330724	7 x AWG 24/7	0,203	4,0	25,2	36,8
38330722	7 x AWG 22/7	0,254	4,4	37,8	49,4
38330720	7 x AWG 20/7	0,320	5,2	53,8	68,4
38330820	8 x AWG 20/7	0,320	5,9	62,5	83,9
38331028	10 x AWG 28/7	0,127	4,0	22,9	33,0
38331026	10 x AWG 26/7	0,160	4,4	28,1	41,9
38331024	10 x AWG 24/7	0,203	5,0	36,9	53,4
38331022	10 x AWG 22/7	0,254	5,6	51,7	69,4
38331020	10 x AWG 20/7	0,320	6,4	75,4	95,1
38331228	12 x AWG 28/7	0,127	4,0	27,4	35,9
38331226	12 x AWG 26/7	0,160	4,5	30,8	44,2
38331224	12 x AWG 24/7	0,203	5,2	41,2	59,9
38331222	12 x AWG 22/7	0,254	5,8	60,3	80,2
38331220	12 x AWG 20/7	0,320	6,6	86,2	108,3
38331426	14 x AWG 26/7	0,160	4,7	35,5	50,0

Other dimensions and colours are possible on request.

ETFE and PFA are possible on request.

ETFE, FEP, PFA Cables

TD 838 CF TP

FEP data cable, twisted pairs with extended temperature range and overall copper screen

+180 °C

ipr cULus AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3838-0326 CE



marking example:

SAB BRÖCKSKES · D-VIERSEN · TD 838 CF TP AWG 26/3pr cULus AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3838-0326 CE

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6YI1 acc. to VDE 0207-6
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs together in specially adjusted layering
Wrapping:	foil
Screen:	tinned copper braiding
Sheath material:	FEP, 6YM1 acc. to VDE 0207-6
Sheath colour:	white (RAL 1013)

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL/cUL recognized

Technical data:

Peak operating voltage:	max. 375 V	
Voltage UL/cUL:	600 V	
Testing voltage:	core/core	2000 V
	core/screen	2000 V
Min. bending radius:	7,5 x d	
Radiation resistance:	1 x 10 ⁷ cJ/kg	
Temperature range	DIN VDE	UL/cUL: up to +150 °C
fixed laying:	-90/+180 °C	
flexible application:	-55/+180 °C	
limited time of use:	+200 °C	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1 FT2	
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days	
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“	

item no.	dimension	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
38380228	2 x 2 x AWG 28/7	0,127	3,2	13,9	18,7
38380226	2 x 2 x AWG 26/7	0,160	3,5	16,0	22,0
38380224	2 x 2 x AWG 24/7	0,203	4,0	22,3	30,1
38380222	2 x 2 x AWG 22/7	0,254	4,6	27,7	37,1
38380220	2 x 2 x AWG 20/7	0,320	5,1	37,6	49,5
38380328	3 x 2 x AWG 28/7	0,127	3,6	19,2	24,8
38380326	3 x 2 x AWG 26/7	0,160	4,1	22,3	30,7
38380324	3 x 2 x AWG 24/7	0,203	4,5	26,6	37,3
38380322	3 x 2 x AWG 22/7	0,254	5,2	36,4	50,0
38380320	3 x 2 x AWG 20/7	0,320	5,9	51,9	66,8
38380428	4 x 2 x AWG 28/7	0,127	4,2	21,1	30,3
38380426	4 x 2 x AWG 26/7	0,160	4,7	25,3	36,3
38380424	4 x 2 x AWG 24/7	0,203	5,5	32,6	48,6

item no.	dimension	nominal single wire ø mm	approx. outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
38380422	4 x 2 x AWG 22/7	0,254	5,9	46,7	62,7
38380420	4 x 2 x AWG 20/7	0,320	6,8	66,8	84,8
38380418	4 x 2 x AWG 18/19	0,254	8,1	100,3	124,2
38380528	5 x 2 x AWG 28/7	0,127	4,6	24,8	36,5
38380526	5 x 2 x AWG 26/7	0,160	5,2	30,0	43,9
38380524	5 x 2 x AWG 24/7	0,203	5,8	38,7	50,1
38380522	5 x 2 x AWG 22/7	0,254	6,5	55,3	76,2
38380520	5 x 2 x AWG 20/7	0,320	7,5	77,5	104,5
38380628	6 x 2 x AWG 28/7	0,127	4,7	26,7	40,1
38380626	6 x 2 x AWG 26/7	0,160	5,3	34,3	52,5
38380624	6 x 2 x AWG 24/7	0,203	5,9	44,7	66,6
38380622	6 x 2 x AWG 22/7	0,254	6,9	65,2	90,0
38380620	6 x 2 x AWG 20/7	0,320	7,8	92,6	123,7

Other dimensions and colours are possible on request.

ETFE and PFA are possible on request.

ETFE, FEP, PFA Cables

TA 866 F

FEP connection cable with extended temperature range

+180 °C

AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3866-0415 CE



marking example:

SAB BRÖCKSKES · D-VIERSEN · TA 866 F AWG 16/4c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3866-0415 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Colour code:	coloured acc. to HD 308 (VDE 0293-308), from 6 cores black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334, from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	FEP, 6YM1 acc. to VDE 0207-6
Sheath colour:	black (RAL 9005)

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL/cUL recognized

Technical data:

Nominal voltage:	U ₀ /U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	core/core 2000 V
Min. bending radius:	7,5 x d
Radiation resistance:	1 x 10 ⁷ cJ/kg
Temperature range	DIN VDE UL/cUL: up to +150 °C
<i>fixed laying:</i>	-90/+180 °C
<i>flexible application:</i>	-55/+180 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1 FT2
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
38660202	2 x 0,25	0,16	2,9	4,8	13,0
38660205	2 x 0,50	0,21	3,5	9,6	20,6
38660207	2 x 0,75	0,21	4,1	14,4	27,5
38660210	2 x 1,00	0,21	4,3	19,2	32,3
38660215	2 x 1,50	0,26	4,9	28,8	42,5
38660225	2 x 2,50	0,26	5,8	48,0	63,4
38660240	2 x 4,00	0,31	7,0	76,8	94,1
38660260	2 x 6,00	0,31	8,7	115,2	145,6
38660302	3 x 0,25	0,16	3,1	7,2	17,2
38660305	3 x 0,50	0,21	3,7	14,4	27,7
38660307	3 x 0,75	0,21	4,4	21,6	36,9
38660310	3 x 1,00	0,21	4,8	28,8	43,8
38660315	3 x 1,50	0,26	5,3	43,2	60,3
38660325	3 x 2,50	0,26	6,2	72,0	88,6
38660340	3 x 4,00	0,31	7,6	115,2	136,1
38660360	3 x 6,00	0,31	9,4	172,8	213,3
38660402	4 x 0,25	0,16	3,4	9,6	21,6
38660405	4 x 0,50	0,21	4,2	19,2	36,9
38660407	4 x 0,75	0,21	5,3	28,8	46,9
38660410	4 x 1,00	0,21	5,5	38,4	57,8
38660415	4 x 1,50	0,26	6,1	57,6	77,2
38660425	4 x 2,50	0,26	7,5	96,0	114,4
38660440	4 x 4,00	0,31	8,3	153,6	176,1
38660460	4 x 6,00	0,31	10,4	230,4	275,0
38660502	5 x 0,25	0,16	3,7	12,0	27,1
38660505	5 x 0,50	0,21	4,6	24,0	45,9

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
38660507	5 x 0,75	0,21	5,4	36,0	60,6
38660510	5 x 1,00	0,21	5,8	48,0	73,0
38660515	5 x 1,50	0,26	6,9	72,0	97,8
38660525	5 x 2,50	0,26	7,7	120,0	147,1
38660540	5 x 4,00	0,31	9,4	192,0	225,9
38660560	5 x 6,00	0,31	11,6	288,0	357,7
38660702	7 x 0,25	0,16	4,2	16,8	36,0
38660705	7 x 0,50	0,21	5,2	33,6	61,7
38660707	7 x 0,75	0,21	6,2	50,4	78,5
38660710	7 x 1,00	0,21	6,2	67,2	94,3
38660715	7 x 1,50	0,26	7,2	100,8	130,1
38660725	7 x 2,50	0,26	8,4	168,0	193,9
38660740	7 x 4,00	0,31	10,3	268,8	299,2
38660760	7 x 6,00	0,31	12,8	403,2	458,3
38661002	10 x 0,25	0,16	5,4	24,0	52,0
38661005	10 x 0,50	0,21	6,6	48,0	86,3
38661007	10 x 0,75	0,21	7,7	72,0	113,1
38661010	10 x 1,00	0,21	8,1	96,0	135,7
38661015	10 x 1,50	0,26	9,4	144,0	195,5
38661025	10 x 2,50	0,26	11,0	240,0	278,2
38661202	12 x 0,25	0,16	5,6	28,8	62,3
38661205	12 x 0,50	0,21	6,8	57,6	101,6
38661207	12 x 0,75	0,21	8,0	86,4	134,2
38661210	12 x 1,00	0,21	8,4	115,2	159,0
38661215	12 x 1,50	0,26	9,7	172,8	218,9
38661225	12 x 2,50	0,26	11,5	288,0	332,1

Other dimensions and colours are possible on request.

ETFE and PFA are possible on request.

ETFE, FEP, PFA Cables

TA 867 CF

FEP connection cable with extended temperature range and overall copper screen

+180 °C

AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3867-0415 CE



marking example:

SAB BRÖCKSKES · D-VIERSEN · TA 867 CF AWG 16/4c • AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3867-0415 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Colour code:	coloured acc. to HD 308 (VDE 0293-308), from 6 cores black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334, from 3 cores a green-yellow earth wire
Stranding:	in layers
Wrapping:	foil
Screen:	tinned copper braiding
Sheath material:	FEP, 6YM1 acc. to VDE 0207-6
Sheath colour:	black (RAL 9005)

Outstanding features:

- » excellent resistance against chemicals and solvents
- » excellent temperature resistance and flexibility at low temperatures
- » excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- » UL/cUL recognized

Technical data:

Peak operating voltage:	U _o /U 300/500 V	
Voltage UL/cUL:	600 V	
Testing voltage:	core/core	2000 V
	core/screen	2000 V
Min. bending radius:	7,5 x d	
Radiation resistance:	1 x 10 ⁷ cJ/kg	
Temperature range	DIN VDE	UL/cUL: up to +150 °C
<i>fixed laying:</i>	-90/+180 °C	
<i>flexible application:</i>	-55/+180 °C	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1 FT2	
Oil resistance:	very good acc. to UL standard 758, at 80 °C after 80 days	
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“	

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
38670202	2 x 0,25	0,16	3,4	15,2	21,7
38670205	2 x 0,50	0,21	4,1	23,5	33,2
38670207	2 x 0,75	0,21	4,6	28,5	38,9
38670210	2 x 1,00	0,21	4,8	35,1	44,9
38670215	2 x 1,50	0,26	5,5	46,4	57,7
38670225	2 x 2,50	0,26	6,3	67,5	78,4
38670240	2 x 4,00	0,31	7,6	100,3	114,8
38670302	3 x 0,25	0,16	3,6	17,6	25,5
38670305	3 x 0,50	0,21	4,3	28,4	40,0
38670307	3 x 0,75	0,21	4,9	37,6	49,3
38670310	3 x 1,00	0,21	5,2	44,8	58,1
38670315	3 x 1,50	0,26	5,8	60,9	74,2
38670325	3 x 2,50	0,26	6,7	93,0	104,7
38670340	3 x 4,00	0,31	8,1	141,5	156,1
38670360	3 x 6,00	0,31	10,1	226,7	250,1
38670402	4 x 0,25	0,16	4,0	23,5	34,3
38670405	4 x 0,50	0,21	4,7	33,3	48,0
38670407	4 x 0,75	0,21	5,4	44,6	61,2
38670410	4 x 1,00	0,21	5,6	53,1	72,2
38670415	4 x 1,50	0,26	6,3	77,1	93,0
38670425	4 x 2,50	0,26	7,4	119,5	136,0
38670440	4 x 4,00	0,31	8,8	182,5	200,4
38670502	5 x 0,25	0,16	4,3	26,0	39,1

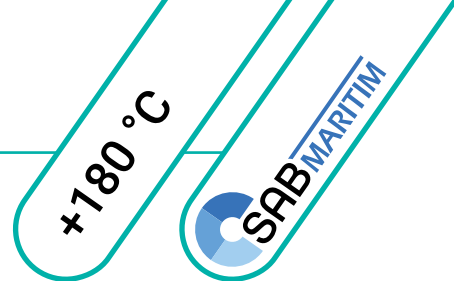
item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
38670505	5 x 0,50	0,21	5,2	39,8	60,0
38670507	5 x 0,75	0,21	5,9	55,5	75,7
38670510	5 x 1,00	0,21	6,2	67,4	88,1
38670515	5 x 1,50	0,26	7,2	95,7	118,4
38670525	5 x 2,50	0,26	8,2	146,3	167,1
38670702	7 x 0,25	0,16	4,7	30,9	47,1
38670705	7 x 0,50	0,21	5,7	51,3	75,5
38670707	7 x 0,75	0,21	6,4	70,0	93,6
38670710	7 x 1,00	0,21	6,7	88,2	110,4
38670715	7 x 1,50	0,26	7,7	126,9	150,0
38670725	7 x 2,50	0,26	8,9	196,9	216,1
38671002	10 x 0,25	0,16	5,1	43,5	64,3
38671005	10 x 0,50	0,21	6,9	71,6	102,7
38671007	10 x 0,75	0,21	8,1	98,3	133,1
38671010	10 x 1,00	0,21	8,6	125,0	158,0
38671015	10 x 1,50	0,26	10,1	197,9	235,4
38671025	10 x 2,50	0,26	11,7	299,6	327,9
38671202	12 x 0,25	0,16	6,1	48,2	75,2
38671205	12 x 0,50	0,21	7,4	81,4	121,4
38671207	12 x 0,75	0,21	8,5	115,4	155,5
38671210	12 x 1,00	0,21	8,9	144,1	181,2
38671215	12 x 1,50	0,26	10,4	226,9	260,5
38671225	12 x 2,50	0,26	12,4	348,0	377,5

Other dimensions and colours are possible on request.
ETFE and PFA are possible on request.

ETFE, FEP, PFA Cables

BL TA 180 C

flexible FEP connection cable with overall copper screen



C 600V AWM I/II A/B 150°C 600V FT1 FT2



marking example:

SAB BRÖCKSKES · D-VIERSEN · BL TA 180 C 7x1,5mm² - IEC 60332-3-22 -

300/500V AWM Style 21618 150°C 600V AWM I/II A/B 150°C 600V FT1 FT2

Application: e.g. as connection cable for the control of marine diesel engines.

Construction:	
Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP
Colour code:	black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334 without green-yellow earth wire
Stranding:	in layers
Inner sheath:	Besilen®
Screen:	tinned copper braiding
Sheath material:	FEP
Sheath colour:	black (RAL 9005)

Technical data:	
Nominal voltage:	U ₀ /U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	core/core 2000 V (AC) core/screen 2000 V
Min. bending radius	
fixed laying:	5 x d
flexible application:	10 x d
Radiation resistance:	1 x 10 ⁷ cJ/kg
Temperature range	DIN VDE UL/cUL: up to +150 °C
fixed laying:	-55/+180 °C
flexible application:	-55/+180 °C
Fire performance:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Oil an fuel resistance:	very good
Flexibility:	good
Halogen-free:	not fulfilled
Absence of harmful substances:	acc. to RoHS directive of the European Union, see chapter N „Technical data“

Outstanding features:

- » no flame propagation
- » flame retardant and self-extinguishing
- » good EMC characteristics
- » oil and fuel resistant
- » good chemical resistance
- » high cold and heat resistance
- » asbestos-free
- » DNV approved
- » UL/cUL recognized

item no.	no. of cores x cross section n x mm ²	outer-ø approx.mm	copper figure kg/km	cable weight ≈ kg/km
37530207	2 x 0,75	5,7	32,9	63
37530307	3 x 0,75	6,0	40,2	68
37530407	4 x 0,75	6,2	50,3	81
37530507	5 x 0,75	7,1	59,6	99
37530607	6 x 0,75	7,7	67,0	116
37530707	7 x 0,75	7,7	74,2	121
37530807	8 x 0,75	8,9	86,7	152
37531207	12 x 0,75	10,2	134,3	203
37531607	16 x 0,75	11,4	169,8	261
37532007	20 x 0,75	12,8	229,5	334
37530210	2 x 1,00	5,9	37,8	64
37530215	2 x 1,50	6,6	50,4	81
37530315	3 x 1,50	6,9	64,6	97
37530515	5 x 1,50	8,2	98,2	145
37530615	6 x 1,50	9,0	115,5	171
37530715	7 x 1,50	9,0	129,9	182
37531215	12 x 1,50	12,0	232,5	309
37530220	2 x 2,00	7,5	62,2	107
37530320	3 x 2,00	8,1	83,8	130

Other dimensions and colours are possible on request.

Possible on request:
Without overall copper screen.
Alternative colour code and sheath colour.