

- FEP, PFA & ETFE WIRES
- FLOOR HEATING CABLES & MAT
- HEAT TRACING CABLES
- PTFE SLEEVES



# PROFILE

We were established in 2000 with excellent experience of manufacturing PTFE Insulated wires, cables and sleeves. In 2006, We started manufacturing Heating Cables for various applications including Under Floor Heating, Blanket Heating and Heat Tracing. We have exported our products to more than 20 Countries in last 12 Years. In 2015, we started to make FEP and PFA Insulated wires confirming to International standards. We are ISO certified and LCSO approved manufactures and full filling requirements of above products in various industries including Defence Electronics, Aviation, Automation, Automobile and many more...

# **PRODUCT RANGE**

- PTFE (Poly Tetra Fluoro Ethylene) Insulated Hookup Wires and Multicore Cables (Suitable for -65°C to +260°C) confirming to JSS 51034 or MIL-W-16878
- PTFE Insulated Shielded and Unshielded cables with PTFE, PVC or Silicon Jacket as per customer requirements
- PTFE Insulated Radio Frequency Coaxial Cables
- PTFE Sleeves
- PTFE Insulated RTD Cables and Thermocouple Cables
- FEP (Fluorinated Ethylene Propylene) Insulated Wires and Cables (-200°C to +200°C) confirming to JSS 51034
- PFA (Per Fluoro Alkoxy) Insulated wires and cables (-200°C to +260°C)
- PTFE Insulated Single conductor Heating Cables and Twin Conductor Heat Tracing Cables
- Twin Conductor Under Floor/ Tile Heating cables and Under Floor Heating Mat



### PTFE INSULATED WIRES AND CABLES

We manufacture PTFE Insulated wires confirming to JSS 51034 or MIL-W-16878 specifications (Size Range AWG 30 to AWG 00), Muti-core and Multi-pair High Temperature cables required in Electronics, Automation, Signal transmission and Equipment Control applications.

 $We are offering following \ constructions \ for \ Multi-core \ and \ Multi-pair \ PTFE \ Cables:$ 

- PTFE/PTFE
- PTFE/PTFE/SS Braid
- PTFE/PTFE or Polymide Isolator/Shielding\*1/PTFE
- PTFE/PTFE/Varnished Fibre Glass
- PTFE/PTFE/Shielding1
- PTFE/Fibre Glass/PTFE
- Multi-Pair Cables with individually shielding
- PVC or Silicon Jacket is also provided on requirement.

And many more constructions for PTFE cables as per customer requirements and applications.

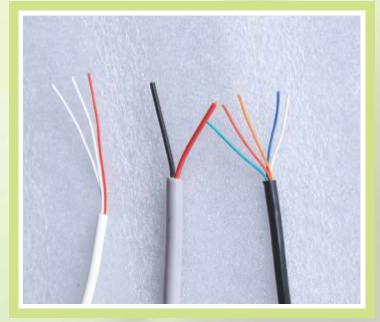
\*Shielding Material : Silver Plated Copper (SPC), Nickel Plated Copper (NPC), Stainless Steel (SS) and Annealed Bare Copper (ABC)

We offer wide range of color coding with Single and Bi Colors for above cable constructions.

Voltage Grade: Type "ET" (250V), Type "E" (600V) and Type "EE" (1000V)

#### **ADVANTAGES OF PTFE CABLES**

- Working Temperature 65°C to + 260 °C
- Flexible, Less Overall Diameter, light weight
- Fire and Flame Proof
- Oils, Chemicals and Solvent resistant
- Corona Resistant
- Long life
- RoHS and Resistant to UV rays





# P.T.F.E./TEFLON<sup>®</sup> INSULATED SILVER PLATED COPPER WIRES

Size in	No. of Strands/	Cross Sectional	Conductor Dia	Conductor Resistance	Elongation %	0	Over all diameter of Insulated wire in M.M.			.М.	Max. Current Rating (in Amps.)		
Awg		(Min.)	For 250 V Acrms Grade OR 'E.T.'		For 600 V Acrms Grade OR 'E'		For 1000 V Acrms Grade OR 'E.E.'		30°C	200ºC			
				(Max.)		(Min.)	(Max.)	(Min.)	(Max.)	(Min.)	(Max.)		
32(1)	1/0.20	0.0324	0.200	557.7	5.5	-	-	0.64	0.86	0.86	1.07	-	-
30(1)	1/0.25	0.0507	0.250	356.4	9.0	0.51	0.61	0.67	0.86	0.91	1.12	2.0	5.0
28(1)	1/0.32	0.0806	0.320	224.4	9.0	0.58	0.69	0.74	0.94	0.99	1.19	3.0	7.0
26(1)	1/0.40	0.1282	0.400	140.9	9.0	0.66	0.76	0.81	1.02	1.07	1.27	4.0	9.0
24(1)	1/0.51	0.2047	0.510	88.4	15.0	0.76	0.86	0.91	1.12	1.17	1.37	5.0	13.0
22(1)	1/0.64	0.3243	0.640	56.1	20.0	0.86	1.02	1.04	1.27	1.34	1.52	6.0	15.0
20(1)	1/0.81	0.5168	0.810	34.7	20.0	1.07	1.17	1.22	1.42	1.47	1.68	8.0	18.0
30(7/38)	7/0.10	0.0568	0.310	332.3	5.5	0.56	0.66	0.71	0.91	0.97	1.17	3.0	6.0
28(7/36)	7/0.13	0.0887	0.380	210.5	5.5	0.64	0.74	0.79	0.99	1.04	1.25	3.5	7.0
26(7/34)	7/0.16	0.1409	0.480	133.7	9.0	0.74	0.84	0.89	1.09	1.14	1.35	4.0	8.0
24(7/32)	7/0.20	0.2270	0.610	83.2	9.0	0.86	0.97	1.02	1.22	1.27	1.47	6.0	13.0
22(7/30)	7/0.25	0.3547	0.760	52.5	13.5	1.02	1.12	1.17	1.37	1.42	1.63	7.0	15.0
20(7/28)	7/0.32	0.5630	0.970	33.0	13.5	1.22	1.32	1.37	1.58	1.63	1.83	9.0	19.0
18(7/26)	7/0.40	0.8969	1.220	20.7	13.5	-	-	1.63	1.88	1.88	2.13	<mark>1</mark> 5.0	<mark>3</mark> 2.0
26(19/38)	19/0.10	0.1540	0.510	126.7	5.5	0.74	0.84	0.89	1.09	1.14	1.35	4.0	9.0
24(19/36)	19/0.13	0.2407	0.640	80.2	9.0	0.86	0.97	1.02	1.22	1.27	1.47	<mark>6.0</mark>	14.0
22(19/34)	19/0.16	0.3820	0.810	49.8	9.0	1.02	1.12	1.17	1.37	1.42	1.63	7.0	17.0
20(19/32)	19/0.20	0.6162	1.020	30.3	9.0	1.22	1.32	1.37	1.58	1.63	1.83	9.0	20.0
18(19/30)	19/0.25	0.9627	1.270	19.1	13.5	-	-	1.63	1.88	1.88	2.13	1 <mark>5.0</mark>	3 <mark>3.0</mark>
16(19/29)	19/0.29	1.2293	1.450	14.9	13.5	-	-	1.85	2.21	2.11	2.41	18.0	42.0
15(19/28)	19/0.32	1.5272	1.600	12.5	13.5	-	-	2.00	2.23	2.20	2.42	21.0	48.0
14(19/27)	19/0.36	1.9412	1.830	9.5	13.5	-	-	2.24	2.59	2.49	2.90	230	55.0
13(19/26)	19/0.40	2.3885	2.000	7.8	13.5	-	-	2.43	2.75	2.65	3.05	28.0	70.0
12(19/25)	19/0.45	3.0848	2.310	6.0	13.5	-	-	2.72	3.07	2.97	3.38	35.0	87.0
11(19/24)	19/0.50	3.7320	2.500	5.0	13.5	-	-	2.91	3.26	3.16	3.56	40.0	95.0
10(19/22)	19/0.64	6.1147	3.200	3.0	13.5	-	-	-	-	3.86	4.26	4 <mark>5.0</mark>	100.0
16(37/32)	37/0.20	1.2000	1.400	15.0	13.5	-	-	1.90	1.95	1.90	2.25	<mark>1</mark> 8.0	40.0
14(37/30)	37/0.25	1.8886	1.750	10.0	13.5	-	-	2.25	2.37	2.35	2.65	25.0	55.0
12(37/28)	37/0.32	2.9742	2.240	6.5	13.5	-	-	2.79	2.89	2.84	3.22	33.0	<mark>8</mark> 0.0
10(37/26)	37/0.40	4.7397	2.820	3.9	13.5	-	-	3.23	3.58	3.48	3.89	43.0	85.0
08(133/29)	133/0.29	8.6054	4.290	2.5	13.5	-	-	-	-	5.06	5.56	50.0	90.0
06(133/27)	133/0.36	13.5889	5.410	1.4	13.5	-	-	-	-	6.20	6.93	60.0	110.0
04(133/25)	133/0.45	21.5900	6.750	1.2	13.0	-	-	-	-	7.75	8.40	75.0	125.0
02(133/23)	133/0.57	33.9514	8.550	-	13.0	-	-	-	-	9.75	10.70	100.0	160.0
0(133/21)	133/0.71	52.7749	10.650		-	-	-	-	-	11.85	12.80	135.0	200.0

#### **NOTE : Teflon<sup>®</sup> Is The Trade Name Of Dupont.**

1. The above is just for information and not a specification 2. The above ratings are for single core cable free in air

# **PTFE SLEEVES**

Poly Tetra Fluoro Ethylene (PTFE) Sleevings and Tubings are intended for applications involving High Frequencies, High Temperature or both. PTFE have excellent electrical properties, which does not change over a wide range of frequencies, temperatures and humidity. These sleevings and tubings are manufactured by Tape Wrapping Sintering (TWS) process that enables these high flexibility and excellent mechanical stability.

Available Sizes : 0.50mm to 10.00mm

Packing : Upto 5.00mm in Multiple of 2mtr. length and for higher sizes in multiple of 1mtr. length.

#### APPLICATIONS OF PTFE SLEEVINGS AND TUBINGS

- Radars, Satellites and other defense electronics equipments
- Due to high temperature proximity widely used for heater interconnections
- Insulating cover for electrical joints, Motor winding leads and Transformer winding leads
- Protective cover over electrical leads in Airconditioning sealed units
- RF Signal transmission, antennas
- For branching leads in harness/cable assembly
- In communications, control Instruments and professional electronics
- As carriers for corrosive, high viscosity chemicals or fluids, also under high pressure and temperature
- As protective cover over hoses for injection moulding machines
- Hoses (with or without stainless steel wire braid) for hydraulic/pneumatic applications
- As capillaries for medical application
- Temperature sensors, Automobiles etc.

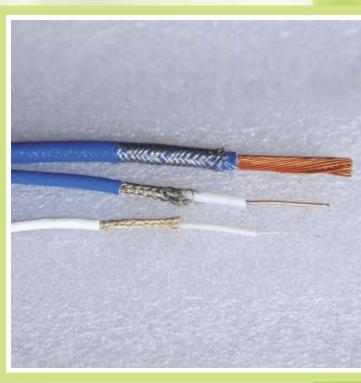
### PTFE INSULATED RF COAXIAL CABLES

We make coaxial cables consisting a Core Conductor (Solid or Multi-strand) surrounded by best dielectric constant material PTFE (Poly Tetra Fluoro Ethylene) and over the insulated core Single or Double Braiding of Metal (Normally, Silver Plated Copper) and finally overall PTFE or FEP Jacket.

We follow MIL-C-17 and JSS-51100 Specification to make coaxial cables.

We offer RF cables like RG 178, RG 179, RG 187, RG 188, RG 195, RG 196, RG 393 and RG 400 etc. as well as cables as per customer specification and requirement.



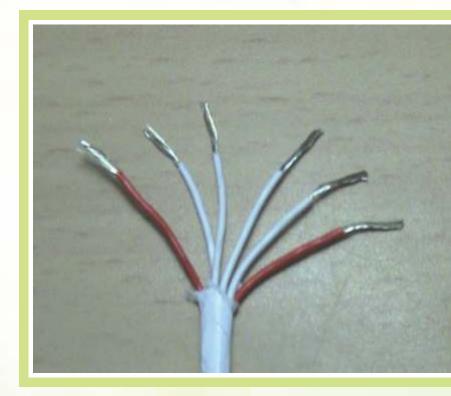


# **RTD CABLES**

We manufacture RTD, Thermocouple Extension and Compensating cables with the PTFE (Teflon®) and FEP Insulation. We make following constructions commonly with parallel as well as twisted form.

- PTFE/ PTFE or PTFE/FEP or FEP/FEP
- PTFE/ PTFE/ SS Braided or FEP/FEP/SS
- PTFE/(SPC/NPC/BC) Braided/PTFE

We manufacture 2 Core, 3 Core, 4 Core and 6 Core RTD cables with above mentioned constructions using best quality Bare Copper, Silver Plated Copper and Nickel Plated Copper Conductors as per customer requirement.



### THERMOCOUPLE & COMPENSATING CABLES



For connecting the thermocouples to the temperature indicators Extension and Compensating cables are used. There are several different recognized thermocouple types available like K-Type, J-Type and R-Type etc. Each type has different temperature ranges as well as different recommended application. We make Extension and Compensating Thermocouple Cables with best quality raw material to get best reading of temperature measurement.

Various constructions as per customer's specifications are available.

We are manufactures and exporters of wide range of High Temperature and Flame retardant wires and cables to meet the specific requirements of our customers' applications. FEP, PFAas well as ETFE Insulations are suitable for chemical, electrical and medical applications also. Available sizes are from AWG 26 to AWG 11.

### FEP (FLUORINATED ETHYLENE PROPYLENE) INSULATED WIRES AND CABLES

- **FEP Insulated wires and FEP Cables** are best option for temperature range -2000 C to +2000 C, It's thin insulation gives good dielectric strength. Some of Salient properties are as follows:
- Smooth surface
- Suitable for High temperatures and harsh environments
- FEP insulation exhibits resistance to almost all chemical environments, solvents and Oils that's why it is widely used in Automobile cable harness
- Flame Retardant and smoke free
- Excellent weather resistance and electrical stability,
- FEP insulated wire is commonly used in LED bulbs, Defense and Military Equipments, Chemical, Electrical Automation, RTD Cables and medical applications,
- UV Resistant
- Confirming to JSS 51034 and ISO 6722

### PFA (PER-FLUORO-ALKOXY) INSULATED WIRE AND CABLE

**PFA Insulated wires and cables** is excellent for high temperature range –200° C to +260° C.Some of the Salient properties of PFA Insulation are as follows:

- Superior Mechanical strength at low and high temperatures
- Smooth Surface
- PFA insulation exhibits resistance to almost all chemical environments, solvents and Oils
- Flame Retardant and smoke free
- Excellent weather resistance and electrical stability,
- UV resistant,
- Used in Military, Aerospace Industry and Thermocouple cables
- Available sizes: AWG 26 to AWG 11

# **ETFE INSULATED WIRE AND CABLE**

ETFE (Ethylene Tetrafluoroethylene Copolymer) insulated wires and cables display excellent material toughness, electrical properties and good resistance to heat, flame, radiation and chemical. ETFE wires are heat resistant and can sustain its properties up to +150°C.

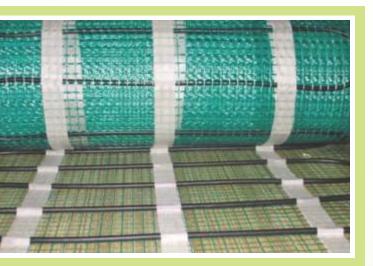
ETFE insulated wires and cables also display high levels of mechanical toughness than FEP and PFA, flexibility and abrasion resistance. ETFE insulation is therefore commonly used in applications requiring good mechanical strength, good properties of chemical resistance, ability to withstand high temperature environments and good properties of electrical stability. The working temperature range of EFTE insulated wire and cable is from -100° C up to +150° C. We make ETFE wires from AWG 26 to AWG 11.

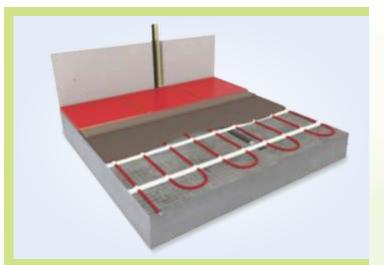
We offer customized sizes also for FEP, PFA and ETFE wires and cables.

We are Manufacturers and Exporters of Heating Wires, Cables and Mats to make living easy in colds. Our Electric Under Floor Heating cables are Thin and used as invisible, safe, economic and maintenance free heating source for whole room heating and give you warm comfort in colds.

Our Electric Underfloor/ Undertile heating elements and Mats are thin and don't raise floor levels. We have a range of underfloor or undertile heating systems for any kind of floor for safely heating.

We are offering customized Heating Cables and Mats for undertile floors, under wood floors, under carpet floors and for more applications. Please feel free to send your enquiries to us.





### SINGLE CONDUCTOR UNSCREENED HEATING CABLES

We are offering Heating Cables for Undertile heating, Under Carpet Heating and for many more application.

Our Single conductor **Unscreened Heating wires** are thin and made by multistrand as well as single solid strand conductor depending on Ohmic Value. Nominal Outer Diameter of Single conductor Insulated Heating wire is only approx. 0.80mm to 1.300mm.

We are supplying Heating cables in long lengths or pre-cut lengths with or without cold tail attached as per customer need.





Cable Properties	Single conductor without Screen		
Ohmic Value	0.050hm/M to 5000hm/M		
Watt Per mtr.	8W/M to 200W/M		
Diameter of Insulated wire	0.80mm to 2.50mm and subject to Ohmic Value		
Cold Tail Length	2 X 3m – Optional		
Conductor Insulation	PTFE, FEP, ETFE, PFA or PVC as per requirement		
Tolerance Ohmicrange	-5% to +10%		
Packaging	Long Length or Pre Cut Lengths in coils or reels		

Application: Under Carpet, Seat Heater, Heating Pads and Electric Blanket etc.

### SINGLE CONDUCTOR SCREENED HEATING CABLES

Our Single Conductor Screened Heating wires are thin and made by multistrand as well as single solid strand conductor depending on Ohmic Value. Nominal Outer Diameter of Single Conductor Insulated Screened Heating cable is only approx-2.20mm thick.

These cables are manufactured by high quality resistance wires with PTFE Tape wrapping and fusion method. Due to PTFE insulation our cables withstand -60°C to +260°C continuously. These cables are Bare Copper braided which provide them maximum safety, toughness and mechanical strength which make them able to install in Rooms, Bathrooms, Kitchens.

We are supplying Heating cables in long lengths or pre-cut lengths with or without cold tail attached as per customer need.

Cable Properties	Single conductor Screened
Wattage	150W to 3000W
Voltage	230V
Watt Per mtr.	8W/M to 30W/M
Cold Tail Length	2X3MPTFE
Inner Conductor Insulation	PTFE, FEP, ETFE or PVC
Screening	Bare Copper Braid
Outer Jacket Insulation	PTFE, FEP, ETFE or PVC as required
Outer Diamete <mark>r of Cable</mark>	Approx. 2.20mm
Tolerance Ohmic range	- 5% to +10%
Packaging	Long Length or Pre Cut Lengths in coils or reels

#### **SPECIFICATIONS:**



# **TWIN CONDUCTOR HEATING CABLES**

We make Insulated Twin Conductor heating cables, these Heating cables are becoming very popular among Floor Heating installers because of cold tails at only single end which makes their installation very easy and fast to make connection to junction box.

Cable Properties	Twin conductor Screened : 4.50mm		
Wattage	150W to 3000W		
Voltage	230V		
Watt Per mtr.	10W/M to 30W/M		
Cold Tail Length	1X3MPVC		
Inner Conductor Insulation	PTFE, FEP or ETFE		
Screening	Bare Copper Braid or Drain wire with Aluminum Foil		
Outer Jacket Insulation	PVC or as per customer specifications		
Outer Diameter of Cable	Approx. 4.50mm		
Tolerance Ohmic range	-5% to +10%		
Packaging	Long Length or Pre Cut Lengths in coils or reels		



# **UNDER FLOOR HEATING MAT**

We offer heating cables with predefined spacing and laid on Fiberglass mats with different power to make the installation of the Heating system much easier and faster. That's why most of the Installers are giving preference to install Heating Mats.

We have two variants of Heating Mats.

Single Conductor Cable mats are manufactured with Single Conductor cable containing cold tails at both ends of Mat.

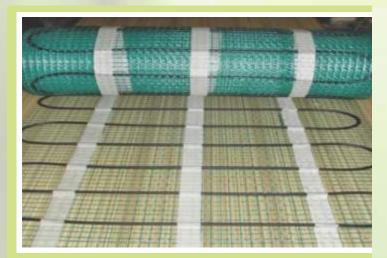
#### **SPECIFICATIONS:**

Single Conductor Screened Cable			
230 V or 110V			
120 W/M2 , 150 W/M2, 180W/M2or as per requirement			
0.50meter (50Cm)			
2mtr. to 20mtr.			
2 X 3mtr. PTFE Insulated			
PTFE, FEP or ETFE			
PTFE, FEP or PVC			
-5% to +10%			
Approx. 2.50mm			

#### TWIN CONDUCTOR CABLE CONTAINING COLD TAIL AT ONE SIDE. SPECIFICATIONS:

Cable	Twin Conductor Screened Cable			
Rated Voltage	230 V or 110V			
Watts per meter2	120 W/M2 , 150 W/M2, 180W/M2or as per requirement.			
Width of Mat	0.50meter			
Length of Mat	2mtr. to 20mtr.			
Cold Tail Length	3mtr. PVC			
Conductor Insulation	PTFE, FEP or ETFE			
Sheath	FEP or PVC			
Tolerance Ohmic Value	-5% to +10%			
Thickness of Mat	Approx. 4.50mm			





#### INDUSTRIAL HEATING CABLES HEAT TRACING CABLES

We offer Electric heat tracing cables which are used for freeze protection or temperature maintenance of piping, tanks and many kinds of instrumentation.

#### **SPECIFICATIONS:**

Cable	Single or Twin Conductor, As per requirement.			
Rated Voltage	230 V Or 110 V			
Watts per meter	8W/M to 50W/M			
Width of Cable	4.00mm to 6.00mm			
Length of Cable	As per requirement.			
Cold Tail Length	1mtr. PTFE Insulated			
Cold Tail Cable	2Core or 3Core (For Grounding) Optional			
Conductor Insulation	FG and PTFE Tape wrapped			
Overall Sheath	PTFE Tape wrapped or SS Braid			
Tolerance Ohmic Value	-5% to +10%			
Packaging	Predefined Lengths or Long Lengths			





## CONSTANT WATTAGE HEAT TRACING CABLE (CUT TO LENGTH)

We are offering Constant wattage Heat Tracing cables from 25W/M to 50W/M in long lengths which can be cut according to requirement with assurance of constant wattage output. Single End connections make it easier during the installation. The best benefit of using constant wattage heater is that it doesn't stop working if one of heating section is failed. i.e. rest of heating cable will keep working satisfactory.

These cables are made by PTFE Tape wrapping process. The PTFE Insulation makes these cables to be used in hazardous environment. PTFE Insulation makes these cables chemical and UV resistant.



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