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Thermoset Insulated Modified Poly-Elastomer Sheathed Flat Cable for Submersible Pump Motors

Introduction

“Emgee” a unit of Mangal Chand Group produces high performance copper Winding Wires, TPR/PVC/PE insulated wire and cables.

Emgee Cables is also India’s leading manufacturer of Submersible Winding Wires & Cables and enjoys an enviable reputation as a quality manufacturer.

The company has most modern computerized fully automatic lines supported by an excellent forward & backward integrations including Wire Drawing with online annealing, High Speed Bunchers, Automatic packing machines and very sophisticated online & offline testing systems.

Emgee Cables & Communication limited is a public company, with shares listed on stock exchange. The company is ISO certified and has all the relevant quality certifications.

Company’s Submersible Winding Wires / Cables are approved by major pump manufacturers viz Caprari, Ustunel, Impo, KSB, Shakti, Texmo, Duke, Plugra etc.

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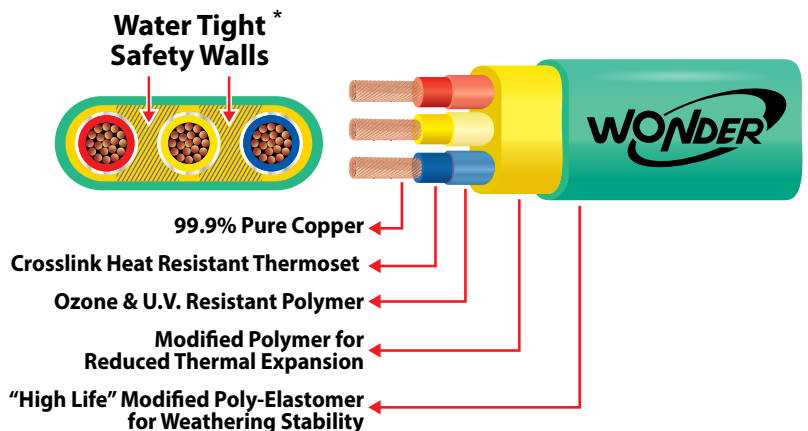
Disclaimer

All information given here is in good faith. Emgee shall not be liable for any damage arising out of incorrect use or interpretation. The company reserves the right to change any of the above specifications without any prior notice.

Submersible Flat Cable (Double Sheathed)

Characteristics:-

Designation • -----	• Thermoset Insulated (resistant to Ozone and U.V. rays), Water tight design with Modified Poly-Elastomer Sheathed (5 Layers) Three Core Flat Cable
Construction Characteristics	
Conductor flexibility • -----	• Flexible bunched Electrolytic grade copper as per class 2 or 5 of IS: 8130/1984
Sheath Colour • -----	• Green
Conductor Material • -----	• Annealed Bare copper
Dimensional Characteristics	
Dimensional Standards • -----	• See table
Electrical Characteristics	
Rated Voltage U ₀ /U (U _m) • -----	• 450/750 V
Test voltage • -----	• 3.0 KV for five minutes
Short Circuit Temp. • -----	• 275°C
Mechanical Characteristics	
Cable flexibility • -----	• Flexible
Min. bending radius • -----	• 4 X D ~ 5 X D
Usage Characteristics	
Flame retardant • -----	• as per IS: 694/1990
Chemical resistance • -----	• Accidental
Oil resistance • -----	• Yes
Operating temperature, range • -----	• (-)40 (+)105°C
Weather resistance • -----	• Excellent
Min. ambient temp. • -----	• -40°C ~ -15°C
Max operation temp. • -----	• +105°C in Mobile Installation and +115°C in Fixed Protected installation.
Minimum laying temp. • -----	• -40°C



Certification • -----	•
Norms • -----	• IS:694, BS6500, IEC-60227

*Only for cables with extra width.

Description: EMGEE introduces “Wonder” Submersible Cable with High-Life performing Insulation & Sheath. This is a flexible cable with low water absorption rate and following features.

Features:

- Tough & Flexible, Double Sheathed.
- “Hi-Life” Polymers for enhanced electrical performance.
- Ozone and U.V. Resistant.
- Reduced Thermal Expansion and good weathering stability.
- Better Strength with Low brittle point and increased flexibility.
- High Dielectric value insulation.
- Water Tight design with “Resistant water Treeing” properties.

Technical Specifications:

Conductor		Insulation	Sheath	Conductor Resistance @20°C (max) ohms/km.	Current Carrying Capacity @40°C Amps.	Water Moisture Absorption	Sheath Resistant to	Temp. Ratings (for all sizes)	
Area sq.mm.	No. of Strands/ Dia. mm.	Thickness (Nom) mm.	Thickness (Nom) mm.					Condition	Temp
1.5	22/0.3*	0.60	0.90	12.10	19	Less than 0.4 mg/cm ²	Ozone, U.V. rays, Moisture, Oil & Chemicals in soil.	Normal	105°C
2.5	36/0.3*	0.70	1.00	7.410	27			Overload	151°C
4	56/0.3**	0.80	1.10	4.950	40			Short Circuit	305°C
6	84/0.3**	0.80	1.10	3.300	55			Cold	-10°C
10	140/0.3**	1.00	1.20	1.910	80			90% Retention (Elongation/ Tensile)	@ 100°C
16	226/0.3**	1.00	1.30	1.210	105				
25	354/0.3**	1.20	1.50	0.780	130				
35	495/0.3**	1.20	1.60	0.554	150				

Note: 1. The number of Wires and Strands Diameter will be such as to satisfy the requirement of conductor resistance as per IS 8130:1984

2. Sizes 16 sqmm, 25 sqmm, 35 sqmm are without SafetyWall.

*As per class 2 of IS:8130/1984

**As per class 5 of IS:8130/1984

Current Carrying Capacity (Amps) Comparison Chart:

at standard voltage 50Hz cycles and ideal conditions as per IS:8034/2002

S.No.	Cable Type	Size							
		1.5	2.5	4	6	10	16	25	35
1	PVC Insulation	14	18	26	31	42	57	72	90
2	Wonder	19	27	40	55	80	105	130	150