

ZOL/101		<sup>1</sup>    <sup>2</sup>    <sup>3</sup>    <sup>4</sup>																					
SPEC. NO.		TITLE																					
E0028		FLAME-RETARDANT FLUONLEX INSULATED WIRE (WFN2)																					

## 1. Scope

This specification describes 1500V flame-retardant \*FLUONLEX insulate wire (WFN2) to be used for electrical machines.

\* Registered trade-name of Hitachi Cable Ltd. for flame-retardant flexible modified ETFE.

## 2. Material and Construction

### 2.1 Conductor

The conductor shall be stranded conductor consists of tinned annealed copper wires in accordance with JIS C 3152.

### 2.2 Separator

A suitable separator shall be applied over the conductor.

### 2.3 Insulation

The insulation shall be an extruded layer of black fluonlex.

The average thickness of insulation shall be not less than 90% of the value given in the attached table and the minimum thickness shall be not less than 80% of the value given in the attached table.



Table 1

3. Test and characteristics of the wire  
The characteristics of the wire shall be given in Table 1.

Item	Characteristics	Test Method
1. Construction	To be complied with clause 3 and the attached table	Clause 5 in JIS C 3005
2. Conductor resistance	Not exceeding the value in the attached table	Clause 6 in JIS C 3005
3. Dielectric strength	Capable of withstanding the test voltage given in the attached table.	Clause 8 (1) in JIS C 3005
4. Insulation resistance	Not less than the value in the attached table	Clause 9.1 in JIS C 3005
5. Surface leakage resistance	Not less than the value in the attached table	Clause 16 in JIS C 3005
6. Insulation material		
Tensile strength	Not less than 1.0 kg/mm <sup>2</sup>	Clause 18 in JIS C 3005
Elongation	Not less than 250%	
Ageing resistance	Not less than 80% of the value before ageing	Clause 19 in JIS C 3005 (Ageing condition ; 250°C x 96hr)
Oil resisting	Not less than 60% of the value before ageing	Clause 20 in JIS C 3005 (Ageing condition ; 120°C x 18 hr)
7. Flame retardant	To be naturally extinguished within 15 minute.	Clause 28 in JIS C 3005 (by Horizontal method)



Table 2 1,500V Fluonlex Insulated Wire (WFM2)

Conductor		Nominal	Sectional	Construction	Wire	Thick.	Dia. of	Tolerance	Conductor	Test	Insulation	Surface
		Area	No./Dia. of	Dia. of	Conductor	Insula- tion	Finished wire	of overall diam.	Resistance	Voltage	Resistance	Leakage
		(mm <sup>2</sup> )			(mm)	(mm)	(mm)	(mm)	( $\Omega$ /km)	(V/1 min.)	(M $\Omega$ /km)	(M $\Omega$ )
250	61/77/0.26	22.6	3.0	28.8	$\pm 1.2$	0.0804	5,400	900	50			
200	37/102/0.26	20.2	3.0	26.4	$\pm 1.1$	0.0991	5,400	1,000	60			
150	37/76/0.26	17.5	2.5	22.7	$\pm 1.0$	0.133	5,400	900	70			
100	37/51/0.26	14.4	2.5	19.6	$\pm 0.9$	0.198	5,400	1,000	80			
80	19/79/0.26	12.7	2.5	17.9	$\pm 0.9$	0.249	5,400	1,000	90			
50	19/50/0.26	10.2	2.5	15.4	$\pm 0.8$	0.394	5,400	1,000	100			