



A member of the Irce Group

F D Sims Ltd

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FD SIMS LIMITED

POLYESTER 200

ROUND COPPER WIRE

Polyester 200 is a multi-purpose dual coated wire which combines the excellent physical and electrical properties of added smoothness and high thermal rating of a polyamide-imide linear polymer topcoat. The combination of these two high quality resins produce a coating which has outstanding surface toughness, abrasion resistance, flexibility, chemical resistance, burnout and thermal resistance and dielectric strength.

Thermal Class (temperature index)	—	H (>200°C)
International Standards	—	IEC 60317 - 13
	—	NEMA MW 35-C
	—	NEMA MW 73-C
UL - Approval	—	F D Sims File E 103815 Irce File E 60641
F D Sims Diameter Range		
Grade 1	—	Ø 0.530 - 1.600 mm
Grade 2	—	Ø 0.530 - 5.500 mm
Irce Diameter Range		
Grade 1	—	Ø 0.140 - 1.600 mm
Grade 2	—	Ø 0.530 - 5.250 mm
Significant Properties	—	Excellent winding characteristics due to the high resistance to abrasion and the good surface smoothness
	—	Excellent thermal resistance (> 200°C)
	—	Very high resistance to impregnation varnishes and to humidity
	—	Excellent resistance to transformer oils
Recommended Applications	—	Motors, oil filled transformers, and in general electric assemblies operating at very high temperature up to 200°C

The data given is correct at the issue date indicated but does not form a specification and may be subject to alteration without notice
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Product UL Approved Registration No E103815

MDS003

Issue 1

07/08/2013

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Typical Properties of 0.530 mm Polyester 200 Grade 2

Chemical Composition

Base Resin - THEIC Polyester - Imide

Overcoat - Amide - Imide

Inspected against: BS EN 60317-13

Characteristics	Tests	REQUESTED		ACTUALS		
		min	max	min	max	avg
PHYSICAL	Conductor Diameter (mm)	0.524	0.536	0.530	0.534	0.532
	Overall Diameter (mm)		0.600		0.594	
	Enamel Thickness (mm)	0.047		0.058		
MECHANICAL	Elongation (%)	28%		36%		
	Springiness		47°		39°	
	Flexibility : Mandrel test		No Cracks			No Cracks 20% Elongated
	Adhesion - Jerk Test		No Peel			No Peel Back
	Friction		0.140		0.120	0.097
ELECTRICAL	Breakdown Voltage Dry (kv)	4.8		13.1	14.4	13.7
	Electrical Conductivity % IACS	100.0%		101.5%		
	Pin Hole 30 metres		5	0	1	0
THERMAL	Heat Shock		220 °C No Cracks			240 °C No Cracks
	Cut Through	>320oC		360 oC		
CHEMICAL	5% Sulphuric Acid			24 hrs		
	1% Potassium Hydroxide			24 hrs		
	Xylol			24 hrs		
	Commercial toluol			24 hrs		
	Naphta Solvent			24 hrs		
	N- Heptane			24 hrs		
	Ethylene trichloride			24 hrs		
	5% ChloridicAcid			24 hrs		

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Typical Properties of 5.50 mm Polyester 200 Grade 2

Chemical Composition

Base Resin - THEIC Modified Polyester

Overcoat - Amide - Imide

Inspected against: BS EN 60317-13

		REQUESTED		ACTUALS		
Characteristics	Tests	min	max	min	max	avg
PHYSICAL	Conductor Diameter (mm)	5.450	5.550	5.462	5.471	5.466
	Overall Diameter (mm)		5.640		5.602	
	Enamel Thickness (mm)	0.097		0.131		
MECHANICAL	Elongation (%)	36%		50%		
	Springiness		n/a		n/a	
	Flexibility : Mandrel test		No Cracks			No Cracks
	Adhesion - Peel Test	20	No Cracks	30		No Cracks
ELECTRICAL	Breakdown Voltage Dry (kv)	5.0		6.6	8.2	7.4
	Electrical Conductivity % IACS	100.0%		101.5%		
THERMAL	Heat Shock		220 °C No Cracks			240 °C No Cracks
	Cut Through	>320oC		360 oC		
CHEMICAL	5% Sulphuric Acid			24 hrs		
	1% Potassium Hydroxide			24 hrs		
	Xylol			24 hrs		
	Commercial toluol			24 hrs		
	Naphta Solvent			24 hrs		
	N- Heptane			24 hrs		
	Ethylene trichloride			24 hrs		
	5% Chloridic Acid			24 hrs		

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