

## TIMCAL ENSACO™ 250G Conductive Carbon Black

Category : Carbon , Carbon Black , Other Engineering Material , Additive/Filler for Polymer

### Material Notes:

ENSACO™ & SUPER P™ conductive carbon blacks are carbon blacks with a high to very high void volume allowing the retention of a carbon network at low to very low filler content. The void volume can originate from the interstices between the carbon black particle due to their complex arrangement and from the porosity. PROPERTIES: High Structure / Low Surface Area Soft flakes Low oxygen content High purity High graphiticity PERFORMANCE: Electrical conductivity Excellent dispersion Low viscosity increase Low cure inhibition Easy mixing and processing Some thermal conductivity Meets the most stringent purity requirements FINAL APPLICATIONS: Automotive fuel hoses, transmission belts, conveyor belts, power cable accessories, thin membranes with high shock resistance, conductive profiles and seals, antistatic flooring, rollers, roller covering... Suitable for all rubber types including silicones and fluoroelastomers Information provided by TIMCAL

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_TIMCAL-ENSACO-250G-Conductive-Carbon-Black.php](http://www.lookpolymers.com/polymer_TIMCAL-ENSACO-250G-Conductive-Carbon-Black.php)

Physical Properties	Metric	English	Comments
Density	0.170 g/cc	0.00614 lb/in <sup>3</sup>	Pour Density; ASTM D1513
Volatiles	<= 0.20 %	<= 0.20 %	Weight loss during heating between 105 and 950°C; Internal Method 02
Oil Absorption	190 %	190 %	OAN (Oil Absorption Number) ml/100g; ASTM D2414
Particle Size	45 µm	45 µm	2 ppm sieve residue; ASTM D1514
pH	8.0 - 11	8.0 - 11	ASTM D1512
Specific Surface Area	65 m <sup>2</sup> /g	65 m <sup>2</sup> /g	BET Nitrogen Surface Area; ASTM D3037
Mooney Viscosity	48	48	(1+4), EVA/NBR Strippable Compounds
	45.7 @Temperature 100 °C	45.7 @Temperature 212 °F	(1 + 4), NBR Conductive Hose Compound
	62 @Temperature 100 °C	62 @Temperature 212 °F	(1 + 4), Conductive CR Conveyor Belt Cover Compound
Melt Flow	3.0 g/10 min @Load 5.00 kg, Temperature 230 °C	3.0 g/10 min @Load 11.0 lb, Temperature 446 °F	Volume Resistivity 5 ohm-cm
	15 g/10 min @Load 5.00 kg, Temperature 230 °C	15 g/10 min @Load 11.0 lb, Temperature 446 °F	Volume Resistivity 10 ohm-cm
	45 g/10 min	45 g/10 min	

Physical Properties	Metric	English	Comments
	@Load 5.00 kg, Temperature 230 °C	@Load 11.0 lb, Temperature 446 °F	Volume Resistivity 1000 ohm-cm
Ash	0.010 %	0.010 %	ASTM D1506

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	62	62	Conductive CR Conveyor Belt Cover Compound
	70.9	70.9	NBR Conductive Hose Compound
	89 - 96	89 - 96	EVA/NBR Strippable Compounds
Tensile Strength	1.90 - 16.9 MPa	276 - 2450 psi	EVA/NBR Strippable Compounds
	13.8 MPa	2000 psi	NBR Conductive Hose Compound
	23.4 MPa	3390 psi	Conductive CR Conveyor Belt Cover Compound
	61.0 MPa	8850 psi	Volume Resistivity 4 [log(ohm-cm)]
	61.0 MPa	8850 psi	Volume Resistivity 6.3 [log(ohm-cm)]
	62.8 MPa	9110 psi	Volume Resistivity 3.2 [log(ohm-cm)]
	64.0 MPa	9280 psi	Volume Resistivity 3 [log(ohm-cm)]
Tensile Strength, Yield	12.8 MPa	1860 psi	NBR Conductive Hose Compound
	@Strain 500 %	@Strain 500 %	
Elongation at Break	117 - 170 %	117 - 170 %	EVA/NBR Strippable Compounds
	339 %	339 %	NBR Conductive Hose Compound
	676 %	676 %	Conductive CR Conveyor Belt Cover Compound
50% Modulus	0.00120 GPa	0.174 ksi	Conductive CR Conveyor Belt Cover Compound
100% Modulus	0.00240 GPa	0.348 ksi	Conductive CR Conveyor Belt Cover Compound
	0.00390 GPa	0.566 ksi	NBR Conductive Hose Compound
	0.0127 GPa	1.84 ksi	EVA/NBR Strippable Compounds
300% Modulus	0.00860 GPa	1.25 ksi	NBR Conductive Hose Compound
	0.00920 GPa	1.33 ksi	Conductive CR Conveyor Belt Cover

Mechanical Properties	Metric	English	Compound Comments
Izod Impact, Notched (ISO)	8.90 kJ/m <sup>2</sup>	4.24 ft-lb/in <sup>2</sup>	Volume Resistivity 2.5 [log(ohm-cm)]
	9.70 kJ/m <sup>2</sup>	4.62 ft-lb/in <sup>2</sup>	Volume Resistivity 3.2 [log(ohm-cm)]
	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	Volume Resistivity 4.5 [log(ohm-cm)]
	11.0 kJ/m <sup>2</sup>	5.23 ft-lb/in <sup>2</sup>	Volume Resistivity 6.5 [log(ohm-cm)]
Tear Strength	32.4 kN/m	185 pli	NBR Conductive Hose Compound
Compression Set	18 %	18 %	Conductive CR Conveyor Belt Cover Compound
	@Temperature 70.0 °C, Time 86400 sec	@Temperature 158 °F, Time 24.0 hour	

Component Elements Properties	Metric	English	Comments
Sulfur, S	0.020 %	0.020 %	ASTM D1619

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.0 ohm-cm	1.0 ohm-cm	40% Carbon Black in HDPE
	10 ohm-cm	10 ohm-cm	25% Carbon Black in HDPE
	79 ohm-cm	79 ohm-cm	NBR Conductive Hose Compound
	100 ohm-cm	100 ohm-cm	Conductive CR Conveyor Belt Cover Compound
	100 ohm-cm	100 ohm-cm	20% Carbon Black in HDPE
	410 ohm-cm	410 ohm-cm	EVA/NBR Strippable Compounds
	1000 ohm-cm	1000 ohm-cm	19% Carbon Black in HDPE
	1.00e+6 ohm-cm	1.00e+6 ohm-cm	17% Carbon Black in HDPE
	5.2 ohm-cm	5.2 ohm-cm	25% Carbon Black
	@Time 300 sec	@Time 0.0833 hour	
	6.0 ohm-cm	6.0 ohm-cm	25% Carbon Black
	@Time 420 sec	@Time 0.117 hour	
	6.25 ohm-cm	6.25 ohm-cm	25% Carbon Black
	@Time 540 sec	@Time 0.150 hour	
	100 ohm-cm	100 ohm-cm	18% Carbon Black
@Time 540 sec	@Time 0.150 hour		
200 ohm-cm	200 ohm-cm		

Electrical Properties	Metric @ Time 420 sec	English @ Time 0.117 hour	18% Carbon Black Comments
	700 ohm-cm	700 ohm-cm	18% Carbon Black
	@Time 540 sec	@Time 0.150 hour	

Processing Properties	Metric	English	Comments
Moisture Content	0.10 %	0.10 %	as packed; ASTM D1509

Descriptive Properties	Value	Comments
Aspect	Fine black granules	
COAN (Crushed OAN) ml/100g	104	ASTM D3493
Peel Strength	3 N	hot air 100°C after 3 days, EVA/NBR Strippable Compounds
	4 N	hot air 100°C after 21 days, EVA/NBR Strippable Compounds
	4 N	hot air 100°C, EVA/NBR Strippable Compounds
Toluene Extract, Max, %	0.1	ASTM D4527

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