SCGC

WIRE & CABLE SOLUTIONS

January 2024

About SCG Chemicals or SCGC

SCG Chemicals or SCGC is one of the leader in sustainable chemical innovations and manufacturing in Thailand and ASEAN that offers a full range of petrochemical products ranging from upstream production of olefins to downstream production of 3 main plastics resins: polyethylene, polypropylene, and polyvinyl chloride including finished products.

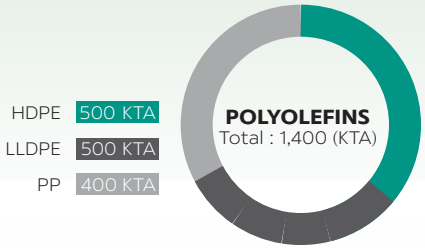
SCGC is committed to conducting business in line with Environmental, Social, and Governance (ESG) and achieving Sustainable Development Goals (SDGs). SCGC is developing new technology and innovation to create high value added products (HVA) and holistic service solutions concerning growing areas such as circular economy, medical & healthcare, and electric vehicle (EV) to better meet diverse places and emphasis demands sustainable environmental stewardship.

ESG Strategic Directions

OUR PRODUCTION CAPACITY (AS OF DECEMBER 2023)
TOTAL CAPACITY (THAILAND + VIETNAM) : 4,146 KTA

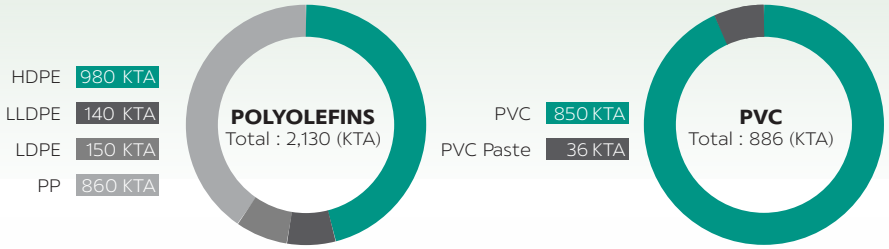
VIETNAM

TOTAL CAPACITY : 1,400 KTA (PE / PP)



THAILAND

TOTAL CAPACITY : 3,016 KTA (PE / PP / PVC)



"INNOVATION THAT'S REAL"

WIRE & CABLE SOLUTIONS

SCGC provides full range of polyolefin and polyvinyl chloride products with strong focus on safety and reliability to make sure that all stakeholders along the value chain can operate sustainably.

The rise of urbanization and megacities around the world have come coupled with higher energy consumption and a need for improved infrastructure. To satisfy the needs of both the increasingly digital-savvy population and industries that require digital technology for enhanced efficiency. Digital technologies have been developing at rapid paces which quality telecommunication cable and power cable are required as they are both pivotal factors in the era of digital Technology.

At SCGC, we truly understand these demands. We offer a full range of polyolefin and polyvinyl chloride for power cable and telecommunication cable businesses. Our expertise enables us to develop new products and services, providing sustainable solutions to our customers as well as meeting specific market requirements. Our products are known for safety and reliability to ensure that its stakeholders all along the value chain can operate sustainably. Most importantly, SCGC's products meet both local and international regulatory standards such as American Society for Testing and Materials (ASTM International) and the International Electrotechnical Commission (IEC) and are approved by Thai Industrial Standards (TIS), Japanese Industrial Standards (JIS), and Australian Standards / New Zealand Standards (AS/NZS).

With sustainability at the core of our business, SCGC is passionately committed to improving people's lives and protecting the world for future generations.

Design for Sustainability

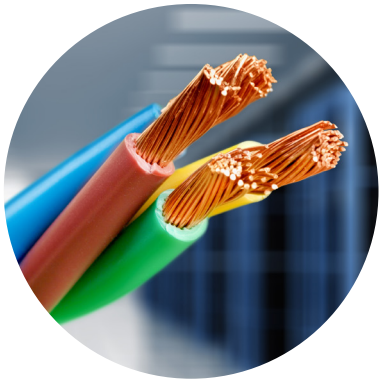
WIRE & CABLE SOLUTIONS

Integrated Solutions for Safety and Reliability

SCGC™ HDPE / SCGC™ MDPE / SCG™ LLDPE

Black HDPE, MDPE and LLDPE compounds / Natural HDPE

SCGC's bimodal process technology from Mitsui Chemicals of Japan and distinctively superior compounding system ensure that we offer consistently high-quality wire and cable products. Our products exhibit exceptional mechanical, electrical, and thermal properties, including processability and an excellent surface appearance. Practically, our products are especially suitable for jacketing and insulation applications in power and telecommunication cables.



SCGC™ PVC

PVC resins and compounds

With over 50 years of extensive experience, SCGC is undoubtedly one of the leading providers of PVC resins and compounds for wire and cable businesses. Our PVC resins and compounds can be used for insulating and jacketing various wires and cables. They can also be used for building wires, such as communication wires and special cables, including flame-retardant cables and low-smoke zero-halogen cables.

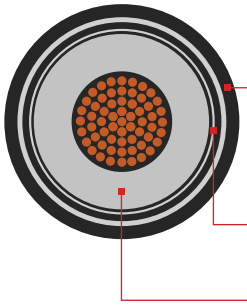
SCGC™ XLPE

Crosslinkable polyethylene compounds

SCGC offers several grades of XLPE for low-to-medium-voltage (up to 25 kV) power cables, manufactured with Siloplast process technology. Produced with customer requirements in mind, our XLPE products exhibit low shrinkage and have excellent processability and surface appearances. Furthermore, our products are produced with fast curing and can prevent color change in conductors.

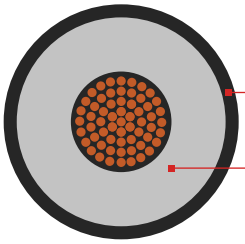
WIRE & CABLE SOLUTIONS

for Medium - to - High - Voltage - power cables



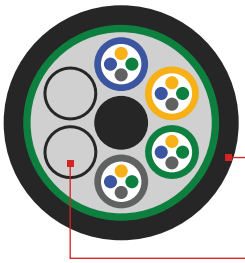
Components	Recommended materials	GRADES
Jacketing	Black HDPE Compound	H2001WC, H624WC
	Black MDPE Compound	M545WC
	Black LLDPE Compound	L546WC
	Black XLPE	LS244BKA
Bedding	Black HDPE Compound	H2001WC, H624WC
	Black MDPE Compound	M545WC
	Black LLDPE Compound	L546WC
Insulation	XLPE	LS244NTA, LS126NTA

For low - voltage - power cables



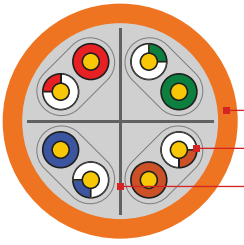
Components	Recommended materials	GRADES
Jacketing	PVC Resin	SG660, SG710, SG840
Insulation	PVC Resin	SG660, SG710, SG840
	XLPE	LS224NTA
		LS126NTA

For fiber - optic cables - telecommunication cables



Components	Recommended materials	GRADES
Jacketing	Black HDPE Compound	H2001WC, H624WC
	Natural HDPE Resin	H512W
	Black MDPE Compound	M545WC
	Black LLDPE Compound	L546WC
Filler rods	Natural HDPE Resin	H512W

For LAN cables - telecommunication cables

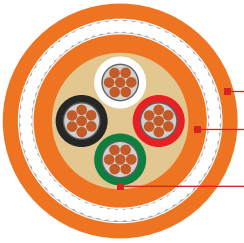


Components	Recommended materials	GRADES
Jacketing	FR-PVC	C69xxxx
Insulation	Natural HDPE Resin	H512W
Filler spacers	Natural HDPE Resin	H512W

Specialty Products:

For Fire - Resistant and Flame - retardant Cables

For power cables



Components	Recommended materials	GRADES
Jacketing	FR-PVC	C69xxxx
Bedding	FR-PVC	C69xxxx
Insulation	XLPE	LS220NTA LS224NTA

SCGC™ HDPE
Black HDPE Compounds

GRADE	H2001WC	H624WC
Recommended applications	- Jacketing of Power Cable - Jacketing of Fiber Optic Cable	- Jacketing of Power Cable - Jacketing of Fiber Optic Cable
Key characteristics	- Excellent weather resistance - Excellent Environmental Stress Crack Resistance (ESCR) - High toughness with superior mechanical properties for jacketing	- Provide good surface appearance at high extrusion speed - Superior mechanical properties for jacketing - Excellent weathering resistant - Excellent Environmental Stress Crack Resistance (ESCR)
Melt flow rate (MFR) (g/10min) ASTM D 1238 @ 190°C, 2.16 kg	0.15	0.64
Density (g/cm^3) ASTM D 1505	0.961	0.960
Tensile strength at break (MPa) ASTM D 638 @ Crosshead speed 50 mm/min	33	33
Elongation at break (%) ASTM D 638 @ Crosshead speed 50 mm/min	>800	>800
OIT @200°C (min) ASTM D 3895 @ 200°C	>90	>90

SCGC™ HDPE
Natural HDPE Resins

GRADE	H512W
Recommended applications	- Insulation of communication cables; local area network (LAN), telephone and signal cable.
Key characteristics	- High-speed insulation materials - Excellent stabilized system that contains metal deactivator which provide good balance of physical and electrical properties performance.
Melt flow rate (MFR) (g/10min) ASTM D 1238 @ 190°C, 2.16 kg	1.10
Density (g/cm^3) ASTM D 1505	0.953
Tensile strength at break (MPa) ASTM D 638 @ Crosshead speed 50 mm/min	29
Elongation at break (%) ASTM D 638 @ Crosshead speed 50 mm/min	>600
OIT @200°C (min) ASTM D 3895 @ 200°C	>90

**Remark:* Applications as outdoor cables require the addition of UV stabilizers for proper UV resistance.

SCGC™ MDPE / SCGC™ LLDPE
Black MDPE Compound / Black LLDPE Compound

GRADE	M545WC	L546WC
Recommended applications	- Jacketing of Power Cable - Jacketing of Fiber Optic Cable	- Jacketing of Power Cable - Jacketing of Fiber Optic Cable
Key characteristics	- Suitable for high speed productivity - Provide good flexibility and surface appearance - Superior mechanical properties for jacketing	- Good surface appearance - Good mechanical properties - High extrusion speed
Melt flow rate (MFR) (g/10min) ASTM D 1238 @ 190°C, 2.16 kg	0.80	1.14
Density (g/cm^3) ASTM D 1505	0.945	0.939
Tensile strength at break (MPa) ASTM D 638 @ Crosshead speed 50 mm/min	31	27
Elongation at break (%) ASTM D 638 @ Crosshead speed 50 mm/min	>800	>800
OIT @200°C (min) ASTM D 3895 @ 200°C	>90	>90

SPECIALTY PRODUCTS
Flame-Retardant Products

SCGC is committed to working closely with our customers to provide optimal solutions for safe and reliable flame-retardant products.

SCGC™ PVC
PVC Compounds for Flame-Retardant Cables

Product Name Flame-retardant compound	**Hardness Shore A** ASTM D 2240 Shore A	**Aging conditions** Temperature (°C)/Days JIS K 6723	**Tensile strength** (MPa) JIS K 6723	**Elongation** (%) JIS K 6723	**Volume resistivity** (x 10^{13} Ohm.cm) JIS K 6723	**Recommended applications**
C6950XXX	91 - 97	100°C/7 Days	min 12.5	min 150	min 1	Flame-retardant cables, Low-smoke, Zero-halogen jackets

SCGC™ XLPE
Crosslinkable Polyethylene Compounds

GRADE	LS244BKA / LS244NTA*	LS224BKA / LS224NTA*
Recommended applications	- Medium voltage insulation up to 24KV - Fast curing time	- Low-voltage insulation - Improved surface - Suitable for small wires up and wall thickness up to 2.0 mm.
Key characteristics	- Crosslinkable by immersion in hot water (90°C) for 10 to 12 hours or ambient cure 21 days for thinkness 5.5 mm - Good surface/ Low shrinkage	- Crosslinkable by immersion in hot water (90°C) for 2 hours or ambient cure 4 days for thinkness 1.0 mm - Good surface/ Low shrinkage
Melt flow rate (MFR) (g/10min) ASTM D 1238 @ 190°C, 2.16 kg	1.00	1.70
Hot set test (200°C, 0.2 MPa, 15 min) Hot Elongation/Set Elongation (%) IEC 60811-2-1	35/-8	65/-8
Tensile strength (MPa) IEC 60811-1-1	>18	>18
Elongation (%) IEC 60811-1-1	>450	>450
Volume resistivity ($x10^{17}$ Ohm.cm) IEC 60093	>1	>1

*BKA = Black compound, NTA = Natural color compound

LS211NTA	LS220NTA	LS126NTA
- Low-voltage insulation	- Low-voltage insulation	- Low voltage insulation
- Crosslinkable by immersion in hot water (90°C) for 1 hours - Good surface/ Low shrinkage - Meets NFC 33-209 standards	- Crosslinkable by immersion in hot water (90°C) for 2 hours - Good surface/ Low shrinkage - Contains metal deactivators	- Crosslinkable by immerse in hot water (90°C) for 1 hours or ambient cure 2 days for thickness 1 mm - Good surface/ Low shrinkage - Good crosslinking properties and easy to process - Contains metal deactivators
1.00	1.70	2.20
40/-9	65/-8	30/-10
>19	>18	>18
>450	>450	>450
>1	>1	>1

SCGC™ PVC
PVC Resins for Cables

GRADE	SG580*	SG660	SG710
Recommended applications	- Electronic appliances, cables, and parts	- Electrical wires and cables	- Electrical wires and cables - Wire harnesses
K-Value (-) ISO 1628-2	58.2	66	71.3
Apparent bulk density (apparent bulk) ISO 60	0.57	0.55	0.49
Volatile matter (%) ISO 1269	0.1	0.1	0.1
Sieve analysis, retained at 250 microns (%) ASTM D 1921	0.1	0.1	0.1
Sieve analysis, retained at 75 microns (%) ASTM D 1921	95.1	94.8	97.9
Impurities and foreign matter (Points/100g) ISO/R 1265	3	5	5
Residual vinyl chloride monomers (ppm) (ASTM D 3749)	0.3	0.3	0.1
Fisheye (Points/150 cm^2) (TPC method)	2	6	5
Volume resistivity (Ohm-cm) (TPC method)	0.5×10^{13}	3.8×10^{13}	4.8×10^{13}

Remark: Typical values only

SG71J	SG71Z	SG840
- Electrical tapes - Electrical wires and cables - Wire harnesses	- Extremely low fisheye count and low contamination levels, suitable for electrical wires and cables, wire harnesses, etc.	- High strength and thermal stability, suitable for wires, cables, harnesses, electrical tapes, etc.
71.5	71.1	85.2
0.49	0.50	0.48
0.1	0.1	0.1
0.1	0.1	0.1
98.5	98.1	97.6
3	2	3
0.3	0.1	0.1
5	2	1
4.7×10^{13}	4.7×10^{13}	4.4×10^{13}

SCGC™ PVC
PVC Compounds for Power Cables

GRADES	C08XX	C27XX - C29XX	C37XX - C39XX	C76XX - C79XX
Recommended applications	- Jacketing	- Jacketing - Insulation	- Jacketing - Insulation	- Jacketing - Insulation
Hardness Shore A ASTM D 2240	76 - 82	70 - 99	70 - 99	58 - 99
Aging conditions Temperature (°C)/Days JIS K 6723	100°C/5 Days	80°C/7 Days	100°C/5 Days	80°C/7 Days
Tensile strength (MPa) JIS K 6723	min 13.5	min 13.5	min 12.5	min 5.5
Elongation (%) JIS K 6723	min 250	min 250	min 150	min 150
Volume resistivity (x10^{13} Ohm-cm) JIS K 6723	min 0.1	min 0.1	min 0.1	min 0.1

C87XX - C89XX	C6918XXX	C6919XXX	C6922XXX
- Jacketing - Insulation	Flame-retardant jackets	Flame-retardant jackets	Flame-retardant jackets
76 - 82	92-98	92-98	92-98
80°C/7 Days	100°C/7 Days	100°C/7 Days	100°C/7 Days
min 5.5	min 12.5	min 12.5	min 12.5
min 200	min 150	min 150	min 150
min 0.1	min 1	min 1	min 1

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Disclaimer:

- The applications specified for reference only.
- It is customer's responsibilities to inspect and test the product for suitability of the customer's own use and purpose.
- The customer is responsible for appropriate, safe, legal use, processing and handling of the product. To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. We however do not assume any liability whatsoever for the accuracy and completeness of the information contained herein.
- We make no warranties which extend beyond the description herein. Nothing herein shall constitute any implied warranty of merchantability or fitness for a particular purpose.
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