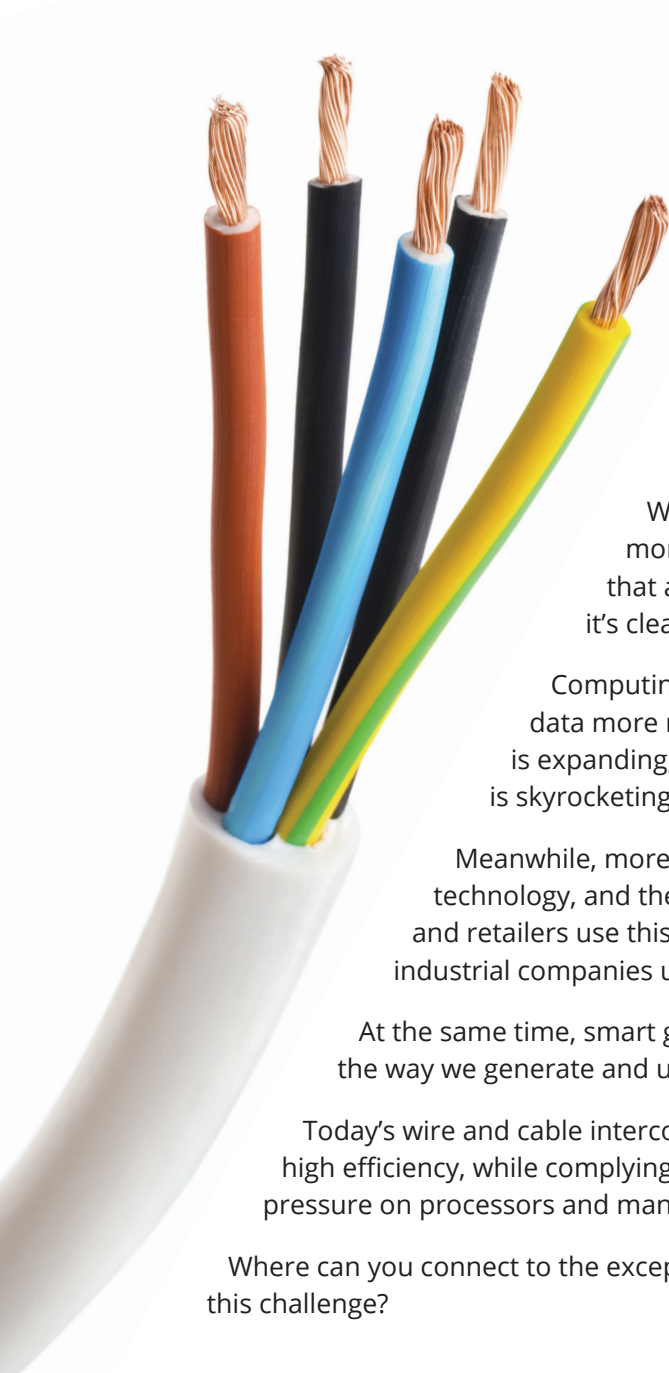




WIRE & CABLE

GEON® CONNECTED SOLUTIONS



POWERING UP WIRE & CABLE FOR A CONNECTED WORLD

Two important trends are affecting the wire and cable industry: the global proliferation of information technology and the fundamental changes in the way power is generated and used. These trends are driving the industry to explore new designs and materials.

Whether it's the popularity of social media, the rise of health monitoring technology or the fast-growing IoT (Internet of Things) that allows consumers to control their information and energy use, it's clear we live in a highly interconnected world.

Computing devices and smart objects are using larger amounts of data more rapidly than ever before. As a result, network bandwidth is expanding, transmission rates are accelerating and power consumption is skyrocketing.

Meanwhile, more people around the world are using information technology, and they expect fast access and performance. For example, hospitals and retailers use this data to provide a more personalized experience, while industrial companies use smart technology to increase efficiency and productivity.

At the same time, smart grids, microgeneration and flexible energy are changing the way we generate and use power.

Today's wire and cable interconnects need to deliver expanded capabilities with high efficiency, while complying with stringent regulations. That means greater pressure on processors and manufacturers to deliver advanced wire and cable solutions.

Where can you connect to the exceptional materials and expertise you need to solve this challenge?

GEON® CAPABILITIES FOR WIRE & CABLE

GEON helps you meet current and future requirements with our broad portfolio of GEON Performance Materials for wire and cable, supported by regulatory assistance, testing and analytical services, and processing expertise.

Whether you need extrusion products for insulation or jacketing, plasticizers for compounding, or injection molding products for sensors, cell tower antennas or enclosures, we have the materials, services and knowledge you need to meet your goals.

**Smart grids,
microgeneration
and flexible
energy are
changing the
way we generate
and use power.**



MATERIAL OPTIONS

- Flexible and rigid formulations
- Custom formulations
- Specialized colors
- Transparent products
- Chemistries for harsh environments
- Anti-counterfeit chemistries
- Non-phthalate and non-lead chemistries
- Bio-based solutions

For consistently high quality, GEON® vinyl and vinyl alloy products are manufactured in ISO 9001 certified facilities.

GLOBAL SERVICES

When you work with GEON, you have access to a world-class, global formulator that offers a full breadth of polymer solutions, including vinyl, specialty engineered polymers, colorants and additives.

In addition to a complete line of polymer solutions, we deliver:

Regulatory assistance

- Many of our materials are compliant with the European Union's Restriction of Hazardous Substances (RoHS) and Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulations.
- We offer materials listed with Underwriter Laboratories (UL) and the Chemicals Safety Audit (CSA).
- We can help you demonstrate support for Leadership in Energy and Environmental Design (LEED) and Green Globes environmental certifications by providing Environmental Product Declarations and Health Product Declarations.
- Our products are backed by our No Surprises PledgeSM (see page 9) attesting to compliance with global regulations, and quality and safety standards.

Testing and analytical services

Our wholly-owned subsidiary and independent contract laboratory, Polymer Diagnostics, Inc. (PDI), provides technical expertise and testing and analytical capabilities (see page 3).

Design and processing support

GEON services range from rigid molding design and mold flow analysis, to processing guides and troubleshooting, to product lifecycle management. Choose from on-site or phone-based technical consultations with our global team.



ANALYZE WITH POLYMER DIAGNOSTICS, INC. (PDI)

Are you designing new products or improving existing ones?

Trying to qualify materials?

Attempting to troubleshoot processing or performance problems?

Turn to the experts!

GEON®'s premier testing and analytical services team can accelerate time to market. Polymer Diagnostics, Inc. can support you from the design phase all the way through production with expert services:

- Analytical chemistry
- Rheology
- Physical testing
- Fire science
- Weathering

We can help you diagnose failure mechanisms, conduct product de-formulation, qualify materials and strive for product safety. Our team also provides legally directed technical assistance and other highly technical evidentiary laboratory support.

PDI is accredited under ISO 17025 through A2LA and participates in the UL Client Test Data program.

For a consultation, please call
1-888-910-0536

FEATURES OF GEON VINYL, VINYL ALLOY, AND PLASTICIZER PRODUCTS

Our GEON product line offers superior performance to meet tougher demands on wire and cable.

- Inherent flame retardance
- Resistance to abrasion, impact, chemicals and corrosion
- Weatherability, including ozone resistance and UV resistance, with products that meet UL 720 requirements for sunlight exposure
- Ability to withstand harsh environments, including low-temperature performance down to -50°C, with good color retention and impact retention
- Noise and vibration damping
- Excellent colorability
- High transparency
- Superior processability, including high-flow materials and products for high-speed extrusion
- Compliance with low acid gas requirements under CSA regulations

Our portfolio offers a wide range of linear phthalate and trimellitate plasticizers, custom plasticizers and bio-based reFlex™ plasticizers.



COLOR CAPABILITIES

Add color to your cables without impacting performance. Our OnColor™ pre-formulated colorants or color masterbatches are available in a wide palette. They are designed to Munsell's National Electrical Manufacturer's Association (NEMA) standards with performance exceeding J1128 and ISO 6722 requirements for demanding automotive applications. These products also meet many standard wire and cable specifications, including RAL color matching, the International Electrotechnical Commission (IEC) standards, the British Standard (BS) and the Association Française de Normalisation (AFNOR) Certification.

In addition to our stock color or masterbatch formulations, GEON® can create a custom color concentrate or masterbatch that meets your specific needs, including temperature, aging, and shrinkage requirements.

GEON can create a custom color concentrate or masterbatch that meets your specific needs, including temperature, aging, and shrinkage requirements.



GEON® VINYL WIRE & CABLE PRODUCTS

RoHS & WEEE Compliant Formulations

APPARATUS & CORD

Product Description	Temp. Rating (°C)	S.G. (g/cc)	LTB (°C)	LOI (%)	Tensile (psi)	Elongation (%)	Duro Scale (A/D)	Duro 15 sec.
GEON W3400L	75	1.39	-36	27	2200	300	A	77
GEON WR3790BL	105	1.28	-44	25	2380	400	A	74
GEON WR4602CL	60	1.22	-64	24	2200	430	A	69
GEON WR7400L	105	1.26	-50	24	2250	430	A	68
GEON WY594B	105	1.33	-20	22	1900	300	A	80

BUILDING WIRE

GEON WEMB407U	105	1.32	-38	29	3000	360	A	85
GEON WEMB410A	105	1.32	-16	31	3200	380	D	44
GEON WEMB410B	105	1.31	-16	29	3200	380	D	44
GEON WR7426L	90	1.32	-40	24	2270	390	A	76
GEON WR8180L	90	1.40	-24	29	2600	300	A	86

CATV

GEON W2407L	75	1.30	-40	30	2900	300	A	80
GEON WC9000L	75	1.45	-25	24	2300	330	A	84
GEON WJJX207L	75	1.35	-30	23	1700	340	A	74
GEON WJKC302LR	75	1.36	-44	24	2700	300	A	78

PLENUM

GEON WJJP603	75	1.63	-7	56	2150	220	D	55
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Melt Temp (°C)	Jacket/ Insulation/ Molding	Agency Listing	Suggested Applications	Enhanced Characteristics
170	J/M	UL	Plug molding, SPT, SJT, SVT flexible cords to UL 62	UL 94 V-0 yellow card
170	I/J		SJTW insulation to UL 62, heater cable insulation	Good high temperature/excellent low temperature insulation
180	J		SJTW jacket, to UL 62, USEB90 to CSA 22.2 No 52, trailer cable	Excellent low temperature
175	J	UL & CSA	SJTW/ SJTOW/ STO flexible jacket to UL 62 festoon	Good low temp., QMTT2 listed by UL for 720 hr. sun. res. (all colors)
160	J/M		Plug molding, SPT, SJT, SVT flexible cords to UL 62	

170	I/J		Building wire insulation	Good high temperature/good low temperature insulation, suitable for outdoor applications
185	I/J	UL	THHN, THW-2, THWN-2, Oil Res I, VW-1, AWM	QMTT2 listed at UL
185	I/J	UL	THHN, THW-2, THWN-2, Oil Res I, VW-1, AWM	QMTT2 listed at UL, optional UI 720 hours sunres version available for all colors
170	J	CSA	NMD90 building wire jacket	CSA listed to CSA 22.2 No 48
170	I	CSA	NMD90 building wire insulation	CSA listed to CSA 22.2 No 48

185	J		Indoor/Outdoor CATV jacket	Good low temperature, designed to meet VW1
175	J		General purpose jacket	
170	J		Outdoor CATV jacket	
170	J		Outdoor CATV jacket	Good low temperature

170	J	UL	Plenum rated jacket	QMTM2 listed at UL
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POWER & CONTROL

Product Description	Temp. Rating (°C)	S.G. (g/cc)	LTB (°C)	LOI (%)	Tensile (psi)	Elongation (%)	Duro Scale (A/D)	Duro 15 sec.
GEON WJCK435	90	1.31	-45	25	2280	400	A	75
GEON WJJK501	60	1.41	-31	26	2600	280	A	82
GEON WJLK61	90	1.41	-32	29	2900	300	D	40
GEON W1800L	90	1.34	-30	25	2600	300	A	87
GEON WA9001	60	1.25	-34	23	3000	375	A	85
GEON WE1330IL	60	1.30	-44	26	2500	370	A	83
GEON WJB593KBL	75	1.45	-45	32	2700	300	D	40
GEON WJCK510H	105	1.39	-50	29	2200	410	A	69
GEON WJCK512	90	1.39	-46	25	2100	350	A	78
GEON WJMS800	105	1.39	-29	31	2700	300	D	41

TELECOMMUNICATIONS

GEON JAC31L	90	1.42	-28	34	3000	280	D	47
GEON W1349L	75	1.31	-13	31	3800	250	D	59
GEON W2403L	60	1.43	-25	28	3240	250	D	43
GEON W780L	90	1.28	-38	30	3600	350	D	43
GEON WE2010	105	1.32	-7	33	3300	350	D	56
GEON WEAC31L	60	1.31	-7	31	3800	300	D	58
GEON WJAC38	75	1.39	-29	29	2900	280	D	34
GEON WJAX208U	60	1.45	-33	29	2500	250	A	87
GEON WJJC310L	75	1.50	-18	39	2800	290	D	50
GEON WJJC31L	75	1.63	-12	46	2500	260	A	91
GEON WJJC346U	75	1.45	-28	31	3200	300	D	47
GEON WJKC304	60	1.36	-42	26	2700	340	A	77
GEON WJKC306	90	1.36	-37	30	2900	330	A	90
GEON WR3792CL	105	1.33	-25	32	2730	350	A	83

Melt Temp (°C)	Jacket/Insulation/Molding	Agency Listing	Suggested Applications	Enhanced Characteristics
165	J		Canadian USE	Good low temperature
160	J		Service entrance jacket USE/SE to UL 854, NMC jacket to UL 719	
170	J	UL	PLTC jacket to UL 1277	QMTT2 listed by UL for 720 hr. sun res. (all colors)
175	I			
170	J		Non-metallic flexible conduit to UL 1660/ CSA22.2 no227	80 °C dry, 60 °C wet and 70 °C oil resistant
170	I		SJTW insulation to UL 62, TW, TWU	Excellent low temperature
180	J		Tray cable	Ruggedized, tough
175	J		Flexible tray cable (CSA/UL)/SJTOW	OIL RES I and II
165	J	CSA	CSA Teck90/ACWU90	CSA listed to CSA 22.2 No 131
175	I		GTO cable to UL 814	

170	J		Riser jacket over vinyl for CL2/CL2R/CL3R/CMR/FPLR to UL 444	
185	I		Semi-rigid for thin wall applications	High speed extrusion
190	J		Direct burial cable jacket	Ruggedised, tough, designed to pass VW1
185	I		Optical fiber buffer and jacket for OFNR construction to UL 444, FTTH	Suitable for outdoor applications, optional biocide version available
180	I		Semi-rigid for thin wall applications, suitable for UL Style 1061	High speed extrusion
185	I		Semi-rigid for thin wall applications	High speed extrusion
180	J		Riser jacket over vinyl for CL2/CL2R/CL3R/CMR/FPLR to UL 444	Suitable for outdoor applications
170	J		Indoor CATV jacket	Suitable for outdoor applications, designed to meet VW1
180	J		Riser jacket over FR-olefin conductors for CL2/CL2R/CL3R CMR/FPLR to UL 444	Good dielectric constant, optional outdoor version available
180	J		Riser jacket over olefin conductors for CL2/CL2R/CL3R/CMR/FPLR to UL 444	Excellent flame retardance
175	J		Riser jacket over vinyl for CL2/CL2R/CL3R/CMR/FPLR to UL 444	Suitable for outdoor applications
175	J		Aerial F drop	Good low temperature
175	J		Optical fiber buffer and jacket for OFNR construction to UL 444	Suitable for outdoor applications, optional biocide version available
175	J		Fire alarm/security cable/thermostat jacket and insulation	Good low temperature, recommended to meet FT4

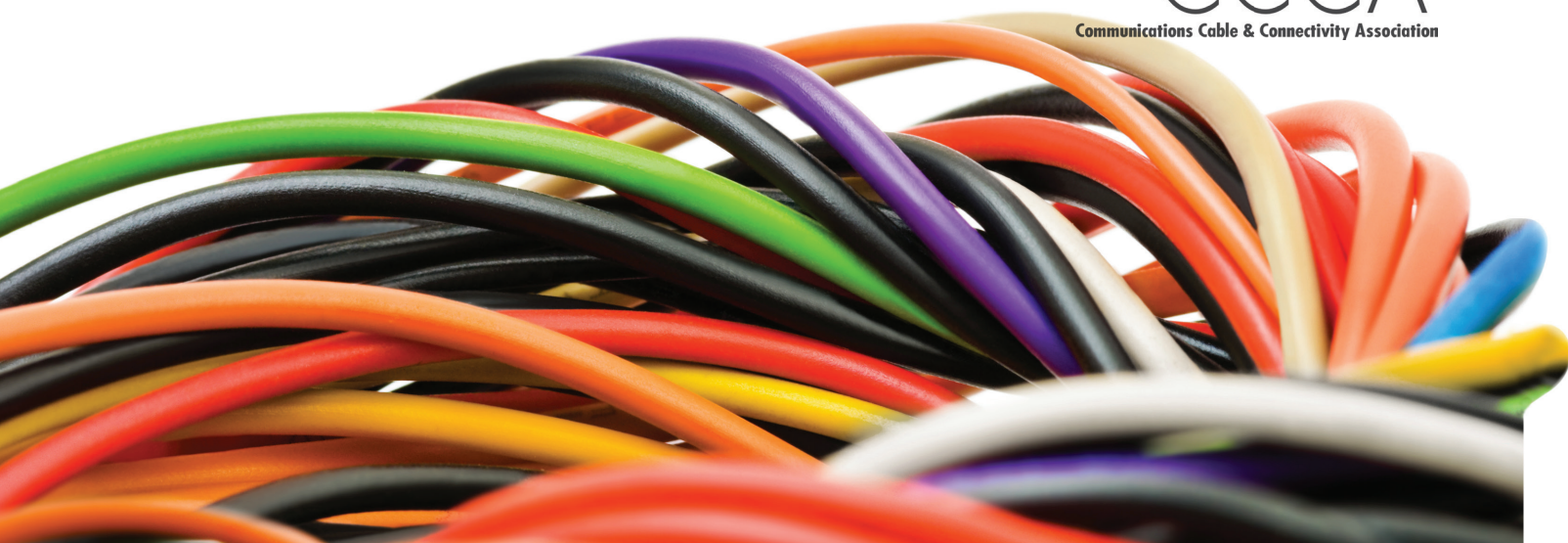
NO SURPRISES PLEDGE

At GEON[®], we are committed to helping you grow your business with safe and environmentally sound solutions. This commitment is exemplified by our No Surprises PledgeSM which we make to all customers and markets, across the globe.

- You can be confident that, in formulating and manufacturing our materials, we use sustainable practices to provide long-term product viability and sound environmental stewardship.
- You can expect that the materials we produce contain only ingredients that conform to accepted legal and regulatory compliance guidelines.
- You can trust that GEON materials meet the rigorous quality and safety management standards required across the globe.
- You can be certain that GEON meets or exceeds the material safety data reporting requirements of your country or region.
- When you choose GEON, you can be confident our products will help you meet or exceed today's stringent compliance standards.



MEMBER ORGANIZATIONS



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