DEVELOPED FOR MACHINE TOOLS, DEVICES,EQUIPMENT

SANCABLE

サンケーブル

SANCABLE

サンケーブル

1. GLOBAL
In conformity with a variety of safety standards

2. HIGH OIL RESISTANT
The combination of TPE insulation, PUR outer sheath makes cables high resistant to oil such as coolant and lubricant

3. HALOGEN FREE
TPE insulation, PUR outer sheath cables are designed to become halogen-free

4. SMALL LOT · SHORT LEAD TIME
“Short lead time” is available. Delivery of small quantities is possible in the place where a variety of types of cables is required for wiring in devices and equipment

1 TPE+PUR High Oil Resistant Cable

HIGH OIL RESISTANT

TPE insulation, PUR outer sheath cables are high resistant to oil (which is at 50 ℃ or lower) such as coolant (water-soluble / oil soluble) and oil and fat (plant / mineral) particularly for machine tools.

DESIGNED FOR ROBOTS

<The type designed for continuous flexing cycles in TPE + PUR High Oil resistant cable series>
0.08mm thick element wire is being stranded to form a conductor. By using a cable stranding machine, TPE insulated conductors twine around each other to form a cable-like structure. TPE holds up to repeated flexing and has low adhesion, which gives cables smooth flexing. PUR, which also holds up to repeated flexing, is being used as an outer sheath material. Therefore, this type is specially designed for continuous flexing cycles and developed as ROBOT cables. TPE and PUR give cables the much higher flexing ability.

HALOGEN FREE

Because of “Halogen free cable”, this series does not generate toxic gas or corrosive gas while burning. Therefore, it’s eco-friendly and safe.

WIRING INSIDE CABLE CARRIERS

This series is abrasion & nick resistant and droop resistant, so suitable not only for wiring inside cable carriers but also for a wide range of machine tools. This series has the better performance than PVC outer sheath cables when used in cable carriers with its smooth flexing.

PERFORMANCE OF TESTS

As a result of the excellent performance of tests such as the loop back test, the horizontal moving test, the bending test and the twisting test, this series is being utilized in production devices and equipment in the automotive industry.

2 PVC+PVC Oil Resistant Cable

OIL RESISTANT

High-grade PVC, which is being used as a material of the conductor insulation and the outer sheath, makes this series higher resistant to oil than normal-grade PVC cables

DESIGNED FOR ROBOTS

<The type designed for continuous flexing cycles in PVC + PVC Oil resistant cable series>
0.08mm thick element wire is being stranded to form a conductor. By using a cable stranding machine, Insulated conductors twine around each other to form a cable-like structure. This type is specially designed for continuous flexing cycles and developed as ROBOT cables.

CONFORMITY WITH A VARIETY OF SAFETY STANDARDS

CE, UL, CSA, CCC, PSE, DESINA …

3 PVC+PVC Standard Cable

PSE

This series is Electrical Appliance and Material Safety Law approved cable, classified as a cable which holds up to repeated flexing according to JIS C 3306 Polyvinyl chloride insulated flexible cords / JIS C 3312 600 V grade polyvinyl chloride insulated and sheathed portable power cables. This series is specially designed for devices and equipment utilized in Japan.

PREVENTION OF CURLING UP

This series has high flexibility and is designed for sporadic flexing cycles where prevention of curling up in characteristics of a cable is required.

THE LIST OF PRODUCT LINE

SANCABLE

Cable

Oil Resistance (material)	Safety Standard	Core Construction	Braided Shield EMC	Continuous Flexing Cycle	Types	Halogen Free	Rated Voltage V	Nominalcross sectional area mm²	Applications
High Oil Resistant (TPE+PUR)	AWM	Normal		✓	VGF	✓	300	0.5～1.0	Internal / external wiring in devices and equipment, Inside cable carriers,
							600	1.5～4	
					VGL	✓	300	0.5～1.0	Internal / external wiring in devices and equipment
							600	1.5～35	
			✓	✓	VGBF	✓	300	0.5～1.5	Internal / external wiring in devices and equipment, Inside cable carriers,
							600	1.5～4	
			✓		VGBL	✓	300	0.5～1.0	Internal / external wiring in devices and equipment
							600	1.5～35	
		Twisted pair conductor		✓	VPGF	✓	300	0.14～0.34	Internal / external wiring in devices and equipment, Inside cable carriers,
			✓	✓	VPGBF	✓	300	0.14～0.75	Internal / external wiring in devices and equipment, Inside cable carriers,
			DOUBLE ✓	✓	VPGWF	✓	300	0.5	Internal / external wiring in devices and equipment, Inside cable carriers,
	AWM DESINA	Normal		✓	VDGF ※BK	✓	300	0.5～1.0	Internal / external wiring in devices and equipment, Inside cable carriers,
							600	1.5～35	
					VDGL ※BK	✓	300	0.75～1.0	Internal / external wiring in devices and equipment
							600	1.5～35	
			✓	✓	VDGBF ※OG	✓	300	0.75～1.0	Internal / external wiring in devices and equipment, Inside cable carriers,
							600	1.5～35	
			✓		VDGBL ※OG	✓	300	0.75～1.0	Internal / external wiring in devices and equipment
							600	1.5～4	
		Combined	✓	✓	VDKGBF ※OG	✓	300	0.5～1.0	Internal / external wiring in devices and equipment, Inside cable carriers,
							600	1.5～35	
			✓	✓	VDKGBF ※GN	✓	300	0.2～0.5	For FANUC Servo Motor, Internal / external wiring in devices and equipment
Oil Resistant (PVC+PVC)	MTW TC-ER AWM	Normal		✓	VMF		600	0.5～6	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray/wiring drooping from a tray
					VML		600	0.5～35	Internal/external wiring in devices and equipment, In a tray/wiring drooping from a tray
			✓	✓	VMBF		600	0.5～6	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray / wiring drooping from a tray
			✓		VMBL		600	0.5～35	Internal/external wiring in devices and equipment, In a tray/wiring drooping from a tray
		2.5mm² Ground Conductor		✓	VMTF		600	0.75	Internal/external wiring in devices and equipment, (Inside cable carriers), In a tray/wiring drooping from a tray, for production devices / equipment in the automotive industry
					VMTL		600	0.75	Internal/external wiring in devices and equipment, In a tray/wiring drooping from a tray, for production devices / equipment in the automotive industry
		Twisted pair conductor		✓	VMTPF		600	0.75	Internal/external wiring in devices and equipment, (Inside cable carriers), In a tray/wiring drooping from a tray, for production devices / equipment in the automotive industry
	CL3 CM AWM	Normal		✓	VLF		300	0.5～4	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray
					VLL		300	0.5～4	Internal / external wiring in devices and equipment, In a tray
			✓	✓	VLBF		300	0.5～1.0	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray
			✓		VLBL		300	0.5～1.0	Internal / external wiring in devices and equipment, In a tray
		Twisted pair conductor		✓	VLPF		300	0.25～0.5	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray
			✓	✓	VLPBF		300	0.25～0.5	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray
			DOUBLE ✓	✓	VLPWF		300	0.5	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray
		2.5mm² Ground Conductor		✓	VLTF		300	0.75	Internal / external wiring in devices and equipment, (Inside cable carriers), In a tray, for production devices / equipment in the automotive industry
					VLTL		300	0.75	Internal / external wiring in devices and equipment, In a tray, for production devices / equipment in the automotive industry
	CCC AWM	Normal		✓	VZF		300/500	0.5～4	Internal / external wiring in devices and equipment, (Inside cable carriers),
					VZL		300/500	0.5～4	Internal / external wiring in devices and equipment,
Normal grade (PVC+PVC)	AWM	Normal		✓	VNF		300	0.34～1.0	Internal / external wiring in devices and equipment, (Inside cable carriers)
							600	1.5～4	
					VNL		300	0.34～1.0	Internal / external wiring in devices and equipment
							600	1.5～35	
		Twisted pair conductor	✓	✓	VNPBF		300	0.25～0.5	Internal / external wiring in devices and equipment, (Inside cable carriers)
	PSE	Normal		✓	VCTF		300	0.75～2.0	Internal / external wiring in devices and equipment, for sporadic flexing cycles
				✓	VCT		600	0.75～3.5	Internal / external wiring in devices and equipment, for sporadic flexing cycles

· The indication of (Inside cable carriers) in Application column in the chart above ; The types with this indication can be used inside cable carriers under the limited conditions, so please refer to the section of each of the types in this catalog and consult with Sankei Manufacturing Co., Ltd.

Insulated wire

Oil Resistant (PVC)	AWM			WOL		300	0.75～1.5	Oil Resistant, Internal wiring in devices and equipment
	AWM MTW CCC PSE			WML		600	0.5～35	Oil Resistant, Flame retardant, Internal wiring in devices and equipment

Material		Temperature Range	Flame retardant	Safety Standard / Certificate Mark									Page
				International	Europe		North America				China	Japan	
Insulation	Sheath			IEC	CE	DESINA	MTW	TC-ER	CL3 CM	UL AWM	cUL (CSA)	CCC	PSE	
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			365
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			367
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			369
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			371
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			373
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			373
TPE	PUR	80°C	VW-1	✓	✓					✓	(注2)			373
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			375
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			375
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			377
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			377
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			379
TPE	PUR	80°C	VW-1	✓	✓	✓				✓	(注2)			381
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			383
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			383
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			385
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			385
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			387
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			387
PVC	PVC	90°C	FT4	✓	✓		✓	(注3)		✓	✓			387
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			389
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			391
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			393
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			393
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			395
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			395
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			395
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			397
PVC	PVC	90°C	FT4	✓	✓				✓	✓	✓			397
PVC	PVC	70°C	VW-1	✓	✓					✓		✓		399
PVC	PVC	70°C	VW-1	✓	✓					✓		✓		399
PVC	PVC	80°C	VW-1							✓	✓			401
PVC	PVC	80°C	VW-1							✓	✓			403
PVC	PVC	80°C	VW-1							✓	✓			405
PVC	PVC	60°C	Flame retardant							✓	✓		✓	407
PVC	PVC	60°C	Flame retardant										✓	407

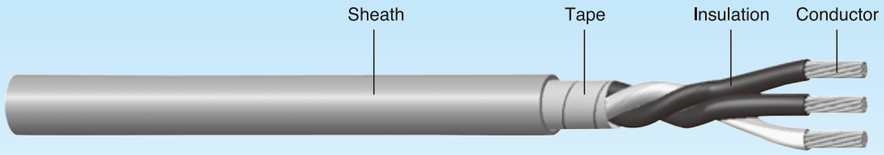
· Marked with 注2) in the chart above ; Should cRU be required please add CSA to a standard catalog number;

PVC		80°C	VW-1							✓	✓			409
PVC		90°C	VW-1	✓	✓		✓			✓	✓	✓	(注3)	410

· Marked with 注3) in the chart above ; Applies to only Cross Section 0.75mm² or bigger size

HIGH OIL RESISTANCE TPE+PUR FLEXING CYCLE HALOGEN FREE

SUPER SANCABLE VGF



INTRODUCTION

- PUR outer sheath, TPE insulation, high oil resistant cable which is designed for continuous flexing cycles
- Standard type is VW-1 approved and halogen free cable.
- c UL us approved type is also available, but NOT halogen free. Add CSA to a standard catalog number when required; e.g. VGF 10C×0.75 CSA

APPLICATION/BENDING RADIUS

- VGF is used in the extremely harsh environment where coolant is being used substantially, in continuous flexing cycles, and Inside cable carriers. This type is suitable for internal / external wiring in devices and equipment. (Refer to Remarks indicated below)
- Minimum bending radius:

Flexing cycle	Fixed installation
7.5D or more	4D or more

D=Cable outer dia meter

CHARACTERISTICS

- High oil resistant
- Hold up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	LG	G/Y	—	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注1）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	—	E311670	E311670
CABLE DESIGNATION	A05Q2Q-F	0.5～1.0mm²：style 20233 1.5～ 4mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.5～1.0mm² 600V：1.5～ 4mm²	300V：0.5～1.0mm² 600V：1.5～ 4mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100 MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注1）" is only for c UL us approved cable.

VGF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg／km	M/Coil
◎	VGF 2CN×0.5	1.5	5.1	7.0	32.7	100
◎	VGF 3C×0.5		5.4	7.0	40.2	
◎	VGF 4C×0.5 ※		5.8	5.6	48.6	
◎	VGF 5C×0.5		6.2	5.6	57.5	
確	VGF 6C×0.5		6.7	5.6	66.6	
◎	VGF 7C×0.5 ※		7.2	4.9	76.0	
◎	VGF 8C×0.5		7.7	4.9	85.5	
◎	VGF 10C×0.5		8.1	3.5	101	
◎	VGF 12C×0.5		8.8	3.5	122	
確	VGF 16C×0.5		9.6	3.5	153	
◎	VGF 18C×0.5		10.1	3.5	169	
◎	VGF 20C×0.5		10.6	3.5	185	
◎	VGF 25C×0.5		11.6	3.2	223	
◎	VGF 2CN×0.75	1.7	5.5	10.0	40.7	100
◎	VGF 3C×0.75 ※		5.8	10.0	51.1	
◎	VGF 3CN×0.75		5.8	10.0	51.1	
◎	VGF 4C×0.75 ※		6.3	8.0	62.8	
◎	VGF 5C×0.75		6.8	8.0	75.0	
確	VGF 6C×0.75		7.3	8.0	87.4	
◎	VGF 7C×0.75		7.9	7.0	101	
確	VGF 8C×0.75		8.8	7.0	121	
確	VGF 10C×0.75		9.3	5.0	142	
確	VGF 12C×0.75		9.6	5.0	162	
確	VGF 16C×0.75		10.6	5.0	206	
◎	VGF 18C×0.75		11.1	5.0	228	
確	VGF 20C×0.75		11.7	5.0	251	
◎	VGF 25C×0.75		12.8	4.5	304	
確	VGF 2CN×1.0	2.1	6.3	11.0	49.7	100
◎	VGF 3C×1.0		6.7	11.0	62.5	
◎	VGF 4C×1.0 ※		7.3	8.8	77.1	
◎	VGF 5C×1.0		7.9	8.8	92.3	
◎	VGF 6C×1.0		8.9	8.8	116	
◎	VGF 7C×1.0 ※		9.6	7.7	133	
確	VGF 8C×1.0		10.3	7.7	150	
確	VGF 10C×1.0		10.9	5.5	175	
◎	VGF 12C×1.0		11.3	5.5	200	
確	VGF 16C×1.0		12.5	5.5	254	
◎	VGF 18C×1.0		13.1	5.5	282	
確	VGF 20C×1.0		13.8	5.5	311	
◎	VGF 25C×1.0		15.6	5.0	390	

VGF FLEXING CYCLE 600V

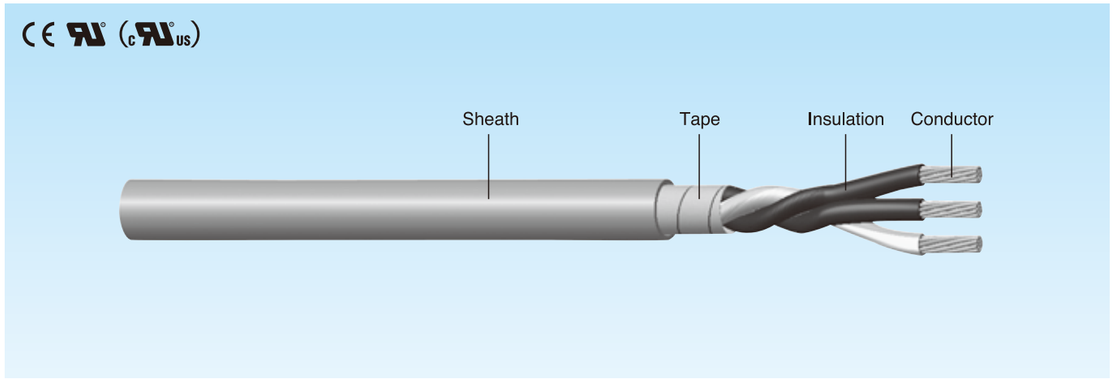
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg／km	M/Coil
◎	VGF 2CN×1.5	2.6	7.3	16.0	68.0	100
◎	VGF 3C×1.5		7.8	16.0	87.2	
◎	VGF 4C×1.5 ※		9.1	12.8	121	
確	VGF 5C×1.5		9.9	12.8	144	
確	VGF 6C×1.5		10.7	12.8	168	
◎	VGF 7C×1.5		11.5	11.2	193	
確	VGF 8C×1.5		12.3	11.2	218	
確	VGF 10C×1.5		13.1	8.0	257	
確	VGF 12C×1.5		13.6	8.0	295	
確	VGF 16C×1.5		15.1	8.0	376	
◎	VGF 18C×1.5		16.1	8.0	425	Length on order
確	VGF 20C×1.5		16.9	8.0	469	
◎	VGF 25C×1.5		18.7	7.2	569	
確	VGF 2CN×2.5	3.2	9.1	23.0	109	100
確	VGF 3C×2.5		9.7	23.0	140	
◎	VGF 4C×2.5 ※		10.5	18.4	175	
確	VGF 5C×2.5		11.5	18.4	211	
確	VGF 6C×2.5		12.5	18.4	248	
◎	VGF 7C×2.5		13.5	16.1	286	
確	VGF 8C×2.5		14.5	16.1	325	
確	VGF 10C×2.5		15.7	11.5	392	
確	VGF 12C×2.5		16.3	11.5	452	Length on order
確	VGF 16C×2.5		18.1	11.5	581	
確	VGF 18C×2.5		19.1	11.5	647	
確	VGF 20C×2.5		20.1	11.5	715	
☆	VGF 25C×2.5		22.9	10.4	901	
確	VGF 2CN×4	3.7	10.1	31.0	146	100
確	VGF 3C×4		10.8	31.0	192	
◎	VGF 4C×4 ※		11.8	24.8	242	
確	VGF 5C×4		12.9	24.8	294	
◎	VGF 7C×4		15.2	21.7	402	
確	VGF 4C×6	4.4	13.5	32.0	326	100
◎	VGF 4C×10	6.1	17.8	49.6	554	Length on order

Black outer sheath cable is also available for Catalog number with ※ (eg; VGF 4Cx0.75 ※). Refer to VDGF section for the more information.

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FIXED INSTALLATION HALOGEN FREE

SUPER SANCABLE VGL



INTRODUCTION

- PUR outer sheath, TPE insulation, high oil resistant cable which is designed for fixed installation
- Standard type is VW-1 approved and halogen free cable.
- c UL us approved type is also available, but NOT halogen free. Add CSA to a standard catalog number when required; e.g. VGL 10C×0.75 CSA

APPLICATION/BENDING RADIUS

- VGL is used in the extremely harsh environment where coolant is being used substantially. This type is suitable for fixed installation and internal / external wiring in devices and equipment.
- Minimum bending radius:

Fixed installation
6D or more

D=Cable outer dia meter

CHARACTERISTICS

- High oil resistant
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	LG	G/Y	—	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注1）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	—	E311670	E311670
CABLE DESIGNATION	A05Q2Q-F	0.5～1.0mm²：style 20233 1.5～35mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.5～1.0mm² 600V：1.5～35mm²	300V：0.5～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注1）" is only for c UL us approved cable.

VGL FIXED INSTALLATION 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
◎	VGL 2CN×0.5	1.45	5.0	7.0	31.5	100
◎	VGL 3C×0.5		5.3	7.0	38.5	
◎	VGL 4C×0.5		5.7	5.6	46.5	
◎	VGL 5C×0.5		6.1	5.6	54.9	
確	VGL 6C×0.5		6.5	5.6	63.4	
◎	VGL 7C×0.5		6.5	4.9	68.9	
確	VGL 8C×0.5		7.0	4.9	77.7	
◎	VGL 10C×0.5		7.9	3.5	95.4	
◎	VGL 12C×0.5		8.2	3.5	109	
確	VGL 16C×0.5		9.4	3.5	146	
◎	VGL 18C×0.5		9.8	3.5	161	
確	VGL 20C×0.5		10.1	3.5	175	
◎	VGL 25C×0.5		11.2	3.2	212	
確	VGL 30C×0.5		11.9	3.2	246	
◎	VGL 2CN×0.75	1.7	5.5	9.0	40.1	100
◎	VGL 3C×0.75		5.8	9.0	50.2	
◎	VGL 3CN×0.75		5.8	9.0	50.2	
◎	VGL 4C×0.75 ※		6.3	7.2	61.6	
◎	VGL 5C×0.75		6.8	7.2	73.3	
◎	VGL 6C×0.75		7.3	6.3	85.4	
◎	VGL 7C×0.75		7.3	6.3	93.6	
確	VGL 8C×0.75		7.8	4.5	106	
確	VGL 10C×0.75		9.3	4.5	139	
◎	VGL 12C×0.75		9.6	4.5	158	
確	VGL 16C×0.75		10.6	4.5	201	
◎	VGL 18C×0.75		11.1	4.5	222	
確	VGL 20C×0.75		11.4	4.5	243	
確	VGL 25C×0.75		12.7	4.1	296	
確	VGL 30C×0.75		13.5	4.1	346	
確	VGL 2CN×1.0	2.0	6.1	11.0	47.0	100
◎	VGL 3C×1.0		6.5	11.0	58.9	
◎	VGL 4C×1.0 ※		7.0	8.0	72.5	
◎	VGL 5C×1.0		7.6	8.0	86.6	
確	VGL 6C×1.0		8.2	8.0	102	
◎	VGL 7C×1.0		8.2	7.7	111	
確	VGL 8C×1.0		9.2	7.7	134	
確	VGL 10C×1.0		10.5	5.5	165	
◎	VGL 12C×1.0		10.9	5.5	188	
確	VGL 16C×1.0		12.0	5.5	238	
◎	VGL 18C×1.0		12.6	5.5	264	
確	VGL 20C×1.0		13.0	5.5	289	
◎	VGL 25C×1.0		14.5	5.0	352	
確	VGL 30C×1.0		15.4	5.0	412	Length on order

Black outer sheath cable is also available for Catalog number with ※ (eg; VGL 4Cx0.75 ※). Refer to VDGL section for the more information.

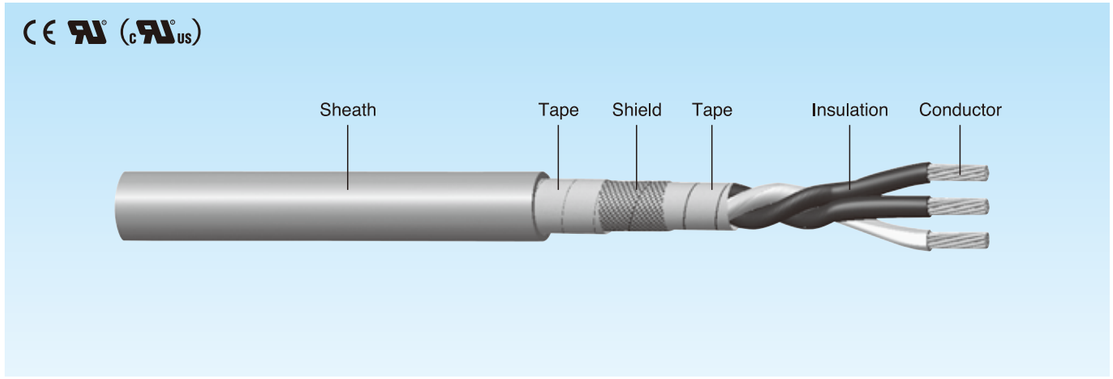
VGL FIXED INSTALLATION 600V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VGL 2CN×1.5	2.5	7.1	16.0	64.9	100
◎	VGL 3C×1.5		7.5	16.0	82.9	
◎	VGL 4C×1.5 ※		8.2	12.8	104	
◎	VGL 5C×1.5		9.5	12.8	137	
確	VGL 6C×1.5		10.3	12.8	160	
◎	VGL 7C×1.5		10.3	12.8	175	
確	VGL 8C×1.5		11.1	11.2	198	
確	VGL 10C×1.5		12.7	11.2	245	
◎	VGL 12C×1.5		13.1	8.0	280	
確	VGL 16C×1.5		14.5	8.0	357	
◎	VGL 18C×1.5		15.3	8.0	397	
確	VGL 20C×1.5		16.0	8.0	441	Length on order
◎	VGL 25C×1.5		17.9	7.2	539	
確	VGL 30C×1.5		19.0	7.2	630	
◎	VGL 2CN×2.5	2.9	7.9	21.0	88.6	100
確	VGL 3C×2.5		9.0	21.0	128	
◎	VGL 4C×2.5 ※		9.8	16.8	160	
◎	VGL 5C×2.5		10.6	16.8	192	
◎	VGL 6C×2.5		11.5	16.8	225	
◎	VGL 7C×2.5		11.5	14.7	249	
確	VGL 8C×2.5		12.4	14.7	283	
確	VGL 10C×2.5		14.3	10.5	351	
確	VGL 12C×2.5		15.0	10.5	412	Length on order
確	VGL 16C×2.5		16.6	10.5	529	
確	VGL 18C×2.5		17.5	10.5	589	
確	VGL 20C×2.5		18.1	10.5	647	
確	VGL 25C×2.5		20.3	9.5	794	
確	VGL 30C×2.5		22.2	9.5	962	
確	VGL 3C×4	3.6	10.5	30.0	178	100
確	VGL 4C×4 ※		11.5	24.0	224	
確	VGL 5C×4		12.5	24.0	271	
確	VGL 6C×4		13.6	24.0	320	
確	VGL 3C×6	4.5	12.5	42.0	263	100
確	VGL 4C×6 ※		13.7	33.6	334	
確	VGL 5C×6		15.0	33.6	407	
確	VGL 6C×6		16.5	33.6	489	Length on order
確	VGL 3C×10	6.1	16.1	62.0	432	Length on order
確	VGL 4C×10 ※		17.8	49.6	552	
確	VGL 5C×10		19.5	49.6	676	
確	VGL 6C×10		22.0	49.6	831	
確	VGL 3C×16	7.2	18.5	85.0	619	Length on order
確	VGL 4C×16 ※		20.4	68.0	797	
◎	VGL 5C×16		23.1	68.0	1009	
☆	VGL 6C×16		25.7	68.0	1215	
☆	VGL 3C×25	9.3	24.0	122.0	1008	Length on order
☆	VGL 4C×25 ※		26.5	97.6	1297	
☆	VGL 5C×25		30.2	97.6	1657	
☆	VGL 6C×25		33.0	97.6	1967	
☆	VGL 3C×35	10.6	26.8	154.0	1362	Length on order
☆	VGL 4C×35 ※		30.7	123.2	1826	
☆	VGL 5C×35		33.8	123.2	2243	
☆	VGL 6C×35		36.9	123.2	2668	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FLEXING CYCLE EMC HALOGEN FREE

BRAIDED SHIELD - SUPER SANCABLE VGBF



INTRODUCTION

- PUR outer sheath, TPE insulation, braided shield, high oil resistant cable which is designed for continuous flexing cycles
- Standard type is UL approved and halogen free cable.
- cULus approved type is also available, but NOT halogen free. Add CSA to a standard catalog number when required; e.g. VGBF 10C×0.75 CSA

APPLICATION/BENDING RADIUS

- VGBF is used in the extremely harsh environment where coolant is being used substantially, in continuous flexing cycles, and Inside cable carriers. This type is suitable for internal / external wiring in devices and equipment.(Refer to Remarks indicated below)
- EMC
- Minimum bending radius:

Flexing cycle	Fixed installation
10D or more	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- High oil resistant
- Braided shield
- Hold up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

REMARKS

- Coolant at 50℃ or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	LG	G/Y	0.12TA/0.18TA	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注1）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E311670	E311670
CABLE DESIGNATION	A05Q2C4Q-K	0.5～1.0mm²：style 20233 1.5～ 4mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.5～1.0mm² 600V：1.5～ 4mm²	300V：0.5～1.0mm² 600V：1.5～ 4mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注1）" is only for cULus approved cable.

VGBF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
◎	VGBF 2CN×0.5	1.5	5.8	7.0	47.7	100
◎	VGBF 3C×0.5		6.1	7.0	56.1	
確	VGBF 4C×0.5		6.5	5.6	66.0	
◎	VGBF 5C×0.5		6.9	5.6	76.5	
確	VGBF 6C×0.5		7.4	5.6	87.3	
◎	VGBF 7C×0.5		7.9	4.9	98.3	
確	VGBF 8C×0.5		8.4	4.9	110	
確	VGBF 10C×0.5		9.2	3.5	134	
◎	VGBF 12C×0.5		9.5	3.5	149	
確	VGBF 16C×0.5		10.3	3.5	183	
◎	VGBF 18C×0.5		10.8	3.5	201	
確	VGBF 20C×0.5		11.3	3.5	219	
◎	VGBF 25C×0.5		12.3	3.2	260	
確	VGBF 2CN×0.75	1.7	6.2	10.0	57.1	100
◎	VGBF 3C×0.75		6.5	10.0	68.6	
◎	VGBF 3CN×0.75		6.5	10.0	68.6	
確	VGBF 4C×0.75 ※		7.0	8.0	81.9	
◎	VGBF 5C×0.75		7.5	8.0	95.9	
確	VGBF 6C×0.75		8.0	8.0	111	
◎	VGBF 7C×0.75		9.0	7.0	133	
確	VGBF 8C×0.75		9.5	7.0	148	
確	VGBF 10C×0.75		10.0	5.0	171	
◎	VGBF 12C×0.75		10.3	5.0	192	
確	VGBF 16C×0.75		11.3	5.0	239	
確	VGBF 18C×0.75		11.8	5.0	263	
確	VGBF 20C×0.75		12.4	5.0	288	
◎	VGBF 25C×0.75		13.5	4.5	345	
確	VGBF 2CN×1.0	2.1	7.0	11.0	69.0	100
◎	VGBF 3C×1.0		7.4	11.0	83.1	
確	VGBF 4C×1.0 ※		8.0	8.8	99.7	
◎	VGBF 5C×1.0		9.0	8.8	125	
確	VGBF 6C×1.0		9.6	8.8	144	
◎	VGBF 7C×1.0		10.3	7.7	163	
確	VGBF 8C×1.0		11.0	7.7	182	
確	VGBF 10C×1.0		11.6	5.5	210	
◎	VGBF 12C×1.0		12.0	5.5	236	
確	VGBF 16C×1.0		13.2	5.5	295	
◎	VGBF 18C×1.0		13.8	5.5	325	
確	VGBF 20C×1.0		14.5	5.5	356	
◎	VGBF 25C×1.0		16.6	5.0	465	Length on order

VGBF FLEXING CYCLE 600V

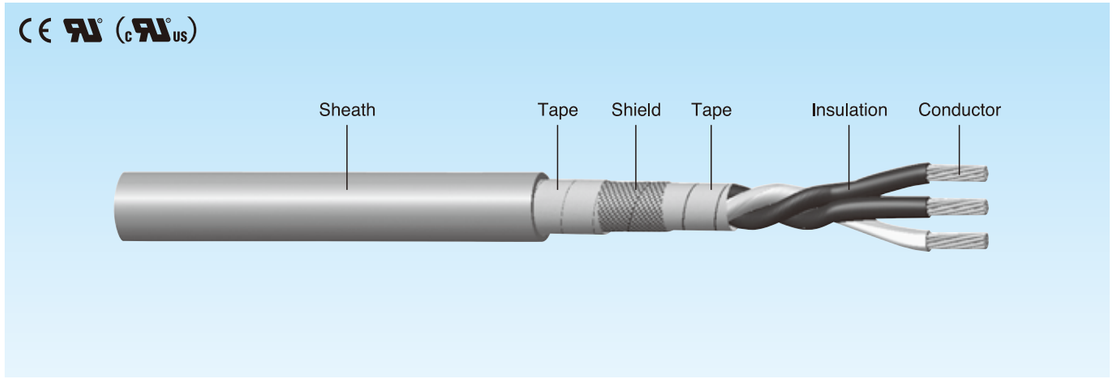
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VGBF 2CN×1.5	2.6	8.0	16.0	90.8	100
◎	VGBF 3C×1.5		9.1	16.0	124	
◎	VGBF 4C×1.5 ※		9.8	12.8	149	
確	VGBF 5C×1.5		10.6	12.8	175	
確	VGBF 6C×1.5		11.4	12.8	202	
◎	VGBF 7C×1.5		12.2	11.2	230	
確	VGBF 8C×1.5		13.0	11.2	258	
確	VGBF 10C×1.5		13.8	8.0	299	
確	VGBF 12C×1.5		14.3	8.0	338	
確	VGBF 16C×1.5		16.3	8.0	457	Length on order
◎	VGBF 18C×1.5		17.1	8.0	503	
確	VGBF 20C×1.5		17.9	8.0	551	
確	VGBF 25C×1.5		19.7	7.2	660	
確	VGBF 2CN×2.5	3.2	9.8	23.0	137	100
確	VGBF 3C×2.5		10.4	23.0	170	
◎	VGBF 4C×2.5 ※		11.2	18.4	208	
確	VGBF 5C×2.5		12.2	18.4	247	
確	VGBF 6C×2.5		13.2	18.4	288	
◎	VGBF 7C×2.5		14.2	16.1	330	
確	VGBF 8C×2.5		15.7	16.1	402	
確	VGBF 10C×2.5		16.7	11.5	468	Length on order
確	VGBF 12C×2.5		17.3	11.5	531	
確	VGBF 16C×2.5		19.1	11.5	670	
確	VGBF 18C×2.5		20.1	11.5	741	
確	VGBF 20C×2.5		21.7	11.5	842	
☆	VGBF 25C×2.5		23.9	10.4	1020	
確	VGBF 2CN×4	3.7	10.8	31.0	177	100
確	VGBF 3C×4		11.5	31.0	225	
確	VGBF 4C×4 ※		12.5	24.8	279	
確	VGBF 5C×4		13.6	24.8	335	

Orange outer sheath cable is also available for Catalog number with ※ (eg; VGBF 4Cx0.75 ※). Refer to VDGBF section for the more information.

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FIXED INSTALLATION EMC HALOGEN FREE

BRAIDED SHIELD - SANCABLE VGBL



INTRODUCTION

- PUR outer sheath, TPE insulation, braided shield, high oil resistant cable which is designed for fixed installation
- Standard type is VW-1 approved and halogen free cable.
- c UL us approved type is also available, but NOT halogen free. Add CSA to a standard catalog number when required; e.g. VGBL 10C×0.75 CSA

APPLICATION/BENDING RADIUS

- VGBL is used in the extremely harsh environment where coolant is being used substantially. This type is suitable for fixed installation and internal / external wiring in devices and equipment.
- EMC
- Minimum bending radius:

Fixed installation
6D or more

D=Cable outer dia meter

CHARACTERISTICS

- High oil resistant
- Braided shield
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	LG	G/Y	0.12TA/0.18TA	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注1）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E311670	E311670
CABLE DESIGNATION	A05Q2C4Q-K	0.5～1.0mm²：style 20233 1.5～35mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.5～1.0mm² 600V：1.5～35mm²	300V：0.5～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注1）" is only for c UL us approved cable.

VGBL FIXED INSTALLATION 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
◎	VGBL 2CN×0.5	1.45	5.7	7.0	46.2	100
◎	VGBL 3C×0.5		6.0	7.0	54.0	
◎	VGBL 4C×0.5		6.4	5.6	63.4	
確	VGBL 5C×0.5		6.8	5.6	73.2	
確	VGBL 6C×0.5		7.2	5.6	83.3	
◎	VGBL 7C×0.5		7.2	4.9	88.9	
確	VGBL 8C×0.5		7.7	4.9	99.2	
◎	VGBL 10C×0.5		9.0	3.5	129	
◎	VGBL 12C×0.5		9.3	3.5	143	
確	VGBL 16C×0.5		10.1	3.5	175	
確	VGBL 18C×0.5		10.5	3.5	192	
確	VGBL 20C×0.5		10.8	3.5	207	
確	VGBL 25C×0.5		11.9	3.2	248	
確	VGBL 30C×0.5		12.6	3.2	284	
◎	VGBL 2CN×0.75	1.7	6.2	9.0	56.6	100
◎	VGBL 3C×0.75		6.5	9.0	67.6	
確	VGBL 4C×0.75 ※		7.0	7.2	80.6	
◎	VGBL 5C×0.75		7.5	7.2	94.1	
◎	VGBL 6C×0.75		8.0	7.2	109	
確	VGBL 7C×0.75		8.0	6.3	117	
確	VGBL 8C×0.75		8.9	6.3	139	
確	VGBL 10C×0.75		10.0	4.5	168	
◎	VGBL 12C×0.75		10.3	4.5	189	
確	VGBL 16C×0.75		11.3	4.5	234	
◎	VGBL 18C×0.75		11.8	4.5	258	
確	VGBL 20C×0.75		12.1	4.5	279	
確	VGBL 25C×0.75		13.4	4.1	337	
確	VGBL 30C×0.75		14.2	4.1	390	
確	VGBL 2CN×1.0	2.0	6.8	11.0	65.6	100
◎	VGBL 3C×1.0		7.1	11.0	78.7	
確	VGBL 4C×1.0 ※		7.7	8.0	94.2	
◎	VGBL 5C×1.0		8.3	8.0	111	
確	VGBL 6C×1.0		9.3	8.0	135	
◎	VGBL 7C×1.0		9.3	7.7	145	
確	VGBL 8C×1.0		9.9	7.7	163	
確	VGBL 10C×1.0		11.2	5.5	198	
◎	VGBL 12C×1.0		11.5	5.5	222	
確	VGBL 16C×1.0		12.7	5.5	277	
◎	VGBL 18C×1.0		13.3	5.5	305	
確	VGBL 20C×1.0		13.7	5.5	331	
◎	VGBL 25C×1.0		15.9	5.0	437	Length on order
確	VGBL 30C×1.0		16.8	5.0	502	

Orange outer sheath cable is also available for Catalog number with ※ (eg; VGBL 4Cx0.75 ※). Refer to VDGBL section for the more information.

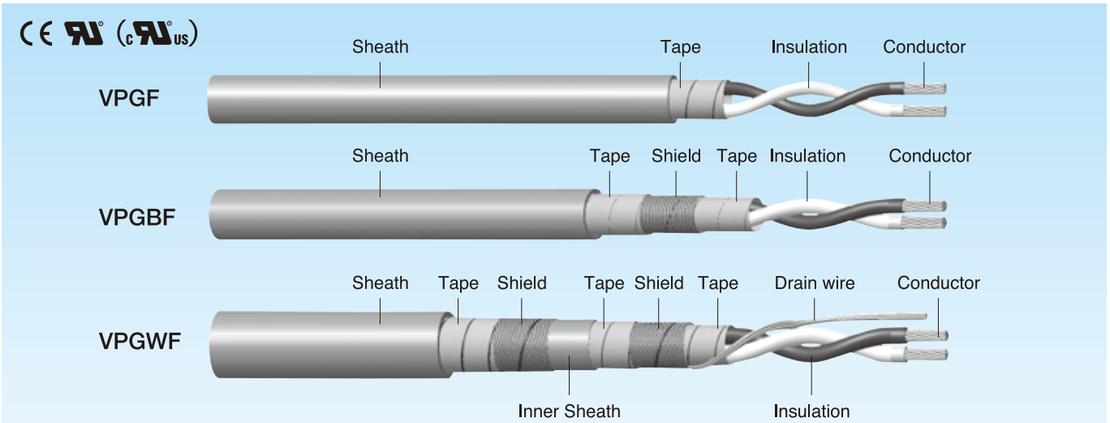
VGBL FIXED INSTALLATION 600V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VGBL 2CN×1.5	2.5	7.8	16.0	87.0	100
◎	VGBL 3C×1.5		8.2	16.0	107	
確	VGBL 4C×1.5 ※		9.5	12.8	142	
◎	VGBL 5C×1.5		10.2	12.8	166	
確	VGBL 6C×1.5		11.0	12.8	192	
◎	VGBL 7C×1.5		11.0	11.2	207	
確	VGBL 8C×1.5		11.8	11.2	233	
確	VGBL 10C×1.5		13.4	8.0	285	
◎	VGBL 12C×1.5		13.8	8.0	322	
確	VGBL 16C×1.5		15.7	8.0	434	Length on order
◎	VGBL 18C×1.5		16.5	8.0	478	
確	VGBL 20C×1.5		17.0	8.0	519	
◎	VGBL 25C×1.5		18.9	7.2	628	
確	VGBL 30C×1.5		20.0	7.2	724	
確	VGBL 2CN×2.5	2.9	9.2	21.0	126	100
確	VGBL 3C×2.5		9.7	21.0	156	
確	VGBL 4C×2.5 ※		10.5	16.8	190	
◎	VGBL 5C×2.5		11.3	16.8	225	
確	VGBL 6C×2.5		12.2	16.8	262	
◎	VGBL 7C×2.5		12.2	14.7	285	
確	VGBL 8C×2.5		13.1	14.7	323	
確	VGBL 10C×2.5		15.2	10.5	404	
確	VGBL 12C×2.5		16.0	10.5	484	Length on order
確	VGBL 16C×2.5		17.6	10.5	610	
確	VGBL 18C×2.5		18.5	10.5	675	
確	VGBL 20C×2.5		19.1	10.5	736	
確	VGBL 25C×2.5		21.9	9.5	922	
☆	VGBL 30C×2.5		23.2	9.5	1071	
確	VGBL 3C×4	3.6	11.2	30.0	211	100
確	VGBL 4C×4 ※		12.2	24.0	260	
確	VGBL 5C×4		13.2	24.0	311	
確	VGBL 6C×4		14.3	24.0	364	
確	VGBL 3C×6	4.5	13.1	42.0	302	100
確	VGBL 4C×6		14.4	33.6	378	
確	VGBL 5C×6		16.2	33.6	487	Length on order
確	VGBL 6C×6		17.5	33.6	569	
確	VGBL 3C×10	6.1	17.1	62.0	510	Length on order
確	VGBL 4C×10		18.8	49.6	639	
確	VGBL 5C×10		20.5	49.6	772	
☆	VGBL 6C×10		23.0	49.6	938	
確	VGBL 3C×16	7.2	19.5	85.0	710	Length on order
◎	VGBL 4C×16		22.0	68.0	926	
☆	VGBL 5C×16		24.1	68.0	1123	
☆	VGBL 6C×16		26.7	68.0	1342	
☆	VGBL 3C×25	9.3	25.0	122.0	1126	Length on order
☆	VGBL 4C×25		27.5	97.6	1427	
☆	VGBL 5C×25		31.2	97.6	1805	
☆	VGBL 6C×25		34.0	97.6	2129	
☆	VGBL 3C×35	10.6	27.8	154.0	1495	Length on order
☆	VGBL 4C×35		31.7	123.2	1976	
☆	VGBL 5C×35		34.8	123.2	2409	
☆	VGBL 6C×35		37.9	123.2	2851	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FLEXING CYCLE (EMC) HALOGEN FREE

TWISTED PAIR / (WITH / WITHOUT BRAIDED SHIELD) - SUPER SANCABLE VPGF,VPGBF,VPGWF



INTRODUCTION

- PUR outer sheath, TPE insulation, with or without braided shield (single braided shield / double braided shield), high oil resistant cable which is designed for continuous flexing cycles
- Should CSA approval be required, a approved type is also possible to be designed as custom-made cable.

CHARACTERISTICS

- High oil resistant
- Single braided shield; (Type; VPGBF)
- Double braided shield; (Type; VPGWF)
- Hold up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

APPLICATION/BENDING RADIUS

- VPGF/VPGBF/VPGWF are used in the extremely harsh environment where coolant is being used substantially, in continuous flexing cycles, and Inside cable carriers.(Refer to Remarks indicated below)
- These types are suitable for internal / external wiring in devices and equipment.
- EMC; (Type;VPGBF/VPGWF)
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VPGF	7.5D or more	4D or more
VPGBF	10D or more	6D or more
VPGWF		

D=Cable outer dia meter

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- The traveling length of cable carriers must be 2m or less when these types are used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	Ref. Technical data-Ⅰ	LG	—	0.12TA/0.18TA	Color identification	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	—	E311670	E311670
CABLE DESIGNATION	VPGF：Li12Y11Y-K VPGBF：A05Q2C4Q-K VPGWF：A05Q2C4Q-K	style 20233	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注)" is only for cULus approved cable.

VPGF FLEXING CYCLE WITHOUT SHIELD 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VPGF 1P×0.14	1.0	4.1	3.0	18.6	100
確	VPGF 2P×0.14		5.6	2.4	31.2	
確	VPGF 3P×0.14		5.9	2.4	36.7	
確	VPGF 4P×0.14		6.3	2.1	43.6	
確	VPGF 5P×0.14		6.8	1.5	50.1	
確	VPGF 6P×0.14		7.3	1.5	57.4	
確	VPGF 7P×0.14		7.3	1.5	61.2	
確	VPGF 8P×0.14		7.9	1.5	68.8	
確	VPGF 10P×0.14		9.4	1.5	93.0	
確	VPGF 12P×0.14		9.7	1.4	104	
確	VPGF 16P×0.14		10.7	1.2	125	
確	VPGF 20P×0.14		11.8	1.1	149	
確	VPGF 1P×0.25	1.2	4.5	4.0	23.1	100
確	VPGF 2P×0.25		6.3	3.2	40.3	
確	VPGF 3P×0.25		6.6	3.2	48.6	
確	VPGF 4P×0.25		7.2	2.8	58.5	
確	VPGF 5P×0.25		7.8	2.0	68.0	
確	VPGF 6P×0.25		8.4	2.0	78.6	
確	VPGF 7P×0.25		8.4	2.0	84.7	
確	VPGF 8P×0.25		9.4	2.0	104	
確	VPGF 10P×0.25		10.8	2.0	129	
確	VPGF 12P×0.25		11.1	1.8	144	
確	VPGF 16P×0.25		12.3	1.6	177	
確	VPGF 20P×0.25		13.4	1.4	211	
確	VPGF 1P×0.34	1.35	4.8	5.0	27.2	100
確	VPGF 2P×0.34		6.8	4.0	48.8	
確	VPGF 3P×0.34		7.2	4.0	59.8	
確	VPGF 4P×0.34		7.8	3.5	72.9	
確	VPGF 5P×0.34		8.9	2.5	92.9	
確	VPGF 6P×0.34		9.6	2.5	108	
確	VPGF 7P×0.34		9.6	2.5	116	
確	VPGF 8P×0.34		10.3	2.5	131	
確	VPGF 10P×0.34		11.8	2.5	163	
確	VPGF 12P×0.34		12.2	2.3	184	
確	VPGF 16P×0.34		13.5	2.0	228	
確	VPGF 20P×0.34		14.7	1.8	274	

VPGWF WITH DOUBLE SHIELD 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VPGWF 1P×0.5	1.5	7.5	7.0	69.0	100

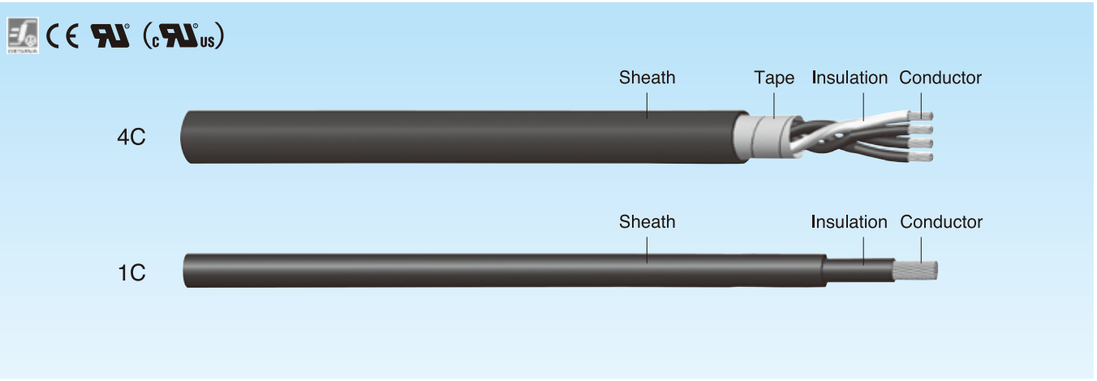
VPGBF FLEXING CYCLE WITH SHIELD 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VPGBF 1P×0.14	1.0	4.8	3.0	30.1	100
確	VPGBF 2P×0.14		6.3	2.4	47.8	
確	VPGBF 3P×0.14		6.5	2.4	54.3	
確	VPGBF 4P×0.14		7.0	2.1	62.8	
確	VPGBF 5P×0.14		7.5	1.5	71.1	
確	VPGBF 6P×0.14		8.0	1.5	80.2	
確	VPGBF 7P×0.14		8.0	1.5	84.0	
確	VPGBF 8P×0.14		9.0	1.5	102	
確	VPGBF 10P×0.14		10.1	1.5	123	
確	VPGBF 12P×0.14		10.4	1.4	134	
確	VPGBF 16P×0.14		11.3	1.2	159	
確	VPGBF 20P×0.14		12.2	1.1	186	
確	VPGBF 1P×0.25	1.2	5.2	4.0	36.0	100
確	VPGBF 2P×0.25		7.0	3.2	59.4	
◎	VPGBF 3P×0.25		7.3	3.2	68.8	
◎	VPGBF 4P×0.25		7.8	2.8	80.7	
確	VPGBF 5P×0.25		7.8	2.0	99.8	
確	VPGBF 6P×0.25		9.5	2.0	114	
確	VPGBF 7P×0.25		9.5	2.0	120	
確	VPGBF 8P×0.25		10.1	2.0	134	
確	VPGBF 10P×0.25		11.5	2.0	163	
確	VPGBF 12P×0.25		11.8	1.8	180	
確	VPGBF 16P×0.25		13.0	1.6	216	
確	VPGBF 20P×0.25		14.0	1.4	255	
確	VPGBF 1P×0.34	1.35	5.5	5.0	41.1	100
確	VPGBF 2P×0.34		7.5	4.0	69.7	
確	VPGBF 3P×0.34		7.8	4.0	82.0	
確	VPGBF 4P×0.34		8.9	3.5	105	
確	VPGBF 5P×0.34		9.5	2.5	121	
確	VPGBF 6P×0.34		10.2	2.5	138	
確	VPGBF 7P×0.34		10.2	2.5	146	
確	VPGBF 8P×0.34		11.0	2.5	164	
確	VPGBF 10P×0.34		12.5	2.5	201	
確	VPGBF 12P×0.34		12.9	2.3	223	
確	VPGBF 16P×0.34		14.2	2.0	272	
確	VPGBF 20P×0.34		16.1	1.8	360	
確	VPGBF 1P×0.5	1.5	5.8	7.0	48.0	100
確	VPGBF 2P×0.5		8.0	7.0	83.6	
確	VPGBF 3P×0.5		8.8	5.6	109	
確	VPGBF 4P×0.5		9.5	4.9	130	
確	VPGBF 5P×0.5		10.2	3.5	150	
確	VPGBF 6P×0.5		11.0	3.5	172	
確	VPGBF 7P×0.5		11.0	3.5	185	
◎	VPGBF 8P×0.5		11.8	3.5	208	
確	VPGBF 10P×0.5		13.5	3.5	257	
確	VPGBF 12P×0.5		14.0	3.2	288	
確	VPGBF 16P×0.5		16.1	2.8	391	
確	VPGBF 20P×0.5		17.4	2.5	464	Length on order
確	VPGBF 1P×0.75	1.7	6.2	10.0	57.8	100
確	VPGBF 2P×0.75		9.1	10.0	112	
確	VPGBF 3P×0.75		9.5	8.0	136	
確	VPGBF 4P×0.75		10.3	7.0	165	
確	VPGBF 5P×0.75		11.2	5.0	192	
確	VPGBF 6P×0.75		12.1	5.0	222	
確	VPGBF 7P×0.75		12.1	5.0	241	
確	VPGBF 8P×0.75		13.0	5.0	272	
確	VPGBF 10P×0.75		15.6	5.0	373	
確	VPGBF 12P×0.75		16.1	4.5	418	Length on order
確	VPGBF 16P×0.75		17.7	4.0	514	
確	VPGBF 20P×0.75		19.3	3.5	610	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR HALOGEN FREE

DESINA - SUPER SANCABLE VDGF※BK,VDGL※BK



INTRODUCTION

- PUR outer sheath, TPE insulation, high oil resistant cable which is designed for continuous flexing cycles / fixed installation
- In compliance with DESINA
- For motors
- Black outer sheath
- Should CSA approval be required, a approved type is also possible to be designed as custom-made cable.

CHARACTERISTICS

- High oil resistant
- DESINA
- VDGF holds up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

APPLICATION/BENDING RADIUS

- These types are used in the extremely harsh environment where coolant is being used substantially, and suitable for internal / external wiring in devices and equipment.
- Specially developed for motors / Power supply
- VDGF is designed for continuous flexing cycles and used Inside cable carriers. (Refer to Remarks indicated below)
- VDGL is designed for fixed installation.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VDGF	7.5D or more	4D or more
VDGL	–	6D or more

D=Cable outer dia meter

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- VDGF 1C is NOT applicable to DESINA
- The traveling length of cable carriers must be 2m or less In the case that VDGF is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR(注3)		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	BK	G/Y	–	Numbering	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E311670	E311670
CABLE DESIGNATION	A05Q2Q-F	0.75～1.0mm²：style 20233 1.5～35mm²：style 21029 （1C） 4～35mm²：style 10587	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.75～1.0mm² 600V：1.5～35mm²	300V：0.75～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注)" is only for cULus approved cable.

VDGF 4C※BK No. of cores : 4 FLEXING CYCLE / INSIDE CABLE CARRIER 300V/600V

Deli-very	Catalog no.	Rated voltage V	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
◎	VDGF 4C×0.5 BK	300	20AWG (0.5mm²)	110/0.08 (1.0)	1.5	4	5.8	35.1	5.6	48.6	100
◎	VDGF 4C×0.75 BK		18AWG (0.75mm²)	167/0.08 (1.2)	1.7	4	6.3	23.1	8.0	62.8	
◎	VDGF 4C×1.0 BK		18AWG (1.0mm²)	7/27/0.08 (1.4)	2.1	4	7.3	20.8	8.8	77.1	
◎	VDGF 4C×1.5 BK	600	16AWG (1.5mm²)	7/41/0.08 (1.7)	2.6	4	9.1	13.7	12.8	121	
◎	VDGF 4C×2.5 BK		14AWG (2.5mm²)	7/70/0.08 (2.3)	3.2	4	10.5	8.04	18.4	175	
◎	VDGF 4C×4 BK		12AWG (4mm²)	7/110/0.08 (2.8)	3.7	4	11.8	5.12	24.8	242	
◎	VDGF 4C×6 BK		10AWG (6mm²)	7/99/0.1 (3.3)	4.4	4	13.5	3.64	32.0	326	
◎	VDGF 4C×8 BK		9AWG (8mm²)	7/45/0.18 (3.8)	5.4	4	15.9	2.47	43.2	463	Length on order
確	VDGF 4C×10 BK		8AWG (10mm²)	7/53/0.18 (4.4)	6.1	4	17.8	2.10	49.6	554	
◎	VDGF 4C×16 BK		6AWG (16mm²)	7/84/0.18 (5.1)	6.7	4	19.6	1.32	68.8	802	
☆	VDGF 4C×25 BK		4AWG (25mm²)	19/49/0.18 (7.0)	9.3	4	26.6	0.836	97.6	1319	
☆	VDGF 4C×35 BK		2AWG (35mm²)	19/69/0.18 (8.2)	10.5	4	29.5	0.593	123.2	1752	

VDGF 1C※BK or G/Y No. of cores : 1 FLEXING CYCLE / INSIDE CABLE CARRIER 600V

Delivery BK	Delivery G/Y	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	確	VDGF 1C×4 BK (G/Y)	12AWG (4mm²)	7/110/0.08 (2.8)	3.7	1	5.7	4.92	31.0	63.7	100
◎	◎	VDGF 1C×6 BK (G/Y)	10AWG (6mm²)	7/99/0.1 (3.3)	4.4	1	6.4	3.50	40.0	84.5	
◎	◎	VDGF 1C×10 BK (G/Y)	8AWG (10mm²)	7/53/0.18 (4.4)	6.1	1	8.1	2.02	62.0	140	
◎	◎	VDGF 1C×16 BK (G/Y)	6AWG (16mm²)	7/84/0.18 (5.7)	7.4	1	10.0	1.27	87.0	216	
確	確	VDGF 1C×22 BK (G/Y)	4AWG (22mm²)	19/46/0.18 (16.3)	8.4	1	10.6	0.873	113.0	294	
◎	◎	VDGF 1C×25 BK (G/Y)	4AWG (25mm²)	19/49/0.18 (7.0)	9.3	1	11.9	0.804	122.0	326	
◎	◎	VDGF 1C×35 BK (G/Y)	2AWG (35mm²)	19/69/0.18 (8.2)	10.5	1	13.1	0.571	154.0	432	Length on order

- DESINA does not apply to VDGF 1C
- Catalog number of G/Y - Green / Yellow outer sheath cable; eg) VDGF 1C×25G/Y
- Insulation of VDGF 1Cx※G/Y is GN. Sheath of VDGF 1Cx※G/Y is G/Y

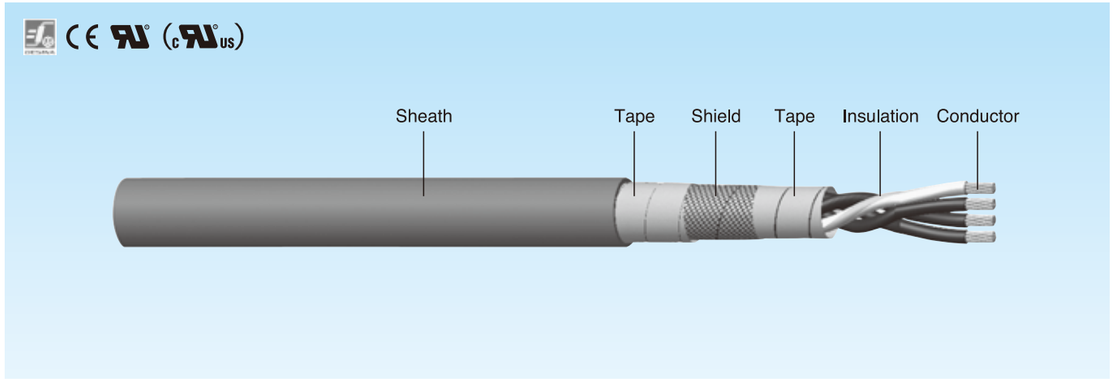
VDGL 4C※BK No. of cores : 4 FIXED INSTALLATION 300V/600V

Deli-very	Catalog no.	Rated voltage V	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying Capacity A	Weight kg/km	M/Coil m
確	VDGL 4C×0.75 BK	300	18AWG (0.75mm²)	33/0.18 (1.2)	1.7	4	6.3	22.7	7.2	61.6	100
確	VDGL 4C×1.0 BK		18AWG (1.0mm²)	37/0.18 (1.3)	2.0	4	7.0	20.2	8.8	72.5	
◎	VDGL 4C×1.5 BK	600	16AWG (1.5mm²)	56/0.18 (1.6)	2.5	4	8.2	13.4	12.8	104	
◎	VDGL 4C×2.5 BK		14AWG (2.5mm²)	93/0.18 (2.0)	2.9	4	9.8	8.04	16.8	160	
◎	VDGL 4C×4 BK		12AWG (4mm²)	7/20/0.18 (2.7)	3.6	4	11.5	5.45	24.0	224	
確	VDGL 4C×6 BK		10AWG (6mm²)	7/32/0.18 (3.4)	4.5	4	13.7	3.41	33.6	334	
確	VDGL 4C×10 BK		8AWG (10mm²)	7/53/0.18 (4.4)	6.1	4	17.8	2.06	49.6	552	Length on order
確	VDGL 4C×16 BK		6AWG (16mm²)	7/40/0.26 (5.5)	7.2	4	20.4	1.31	68.0	797	
☆	VDGL 4C×25 BK		4AWG (25mm²)	19/49/0.18 (7.0)	9.3	4	26.5	0.820	97.6	1297	
☆	VDGL 4C×35 BK		2AWG (35mm²)	19/34/0.26 (8.3)	10.6	4	29.7	0.566	123.2	1762	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR EMC HALOGEN FREE

DESINA / BRAIDED SHIELD - SUPER SANCABLE VDGBF※OG,VDGBL※OG



INTRODUCTION

- PUR outer sheath, TPE insulation, braided shield, high oil resistant cable which is designed for continuous flexing cycles / fixed installation
- In compliance with DESINA
- For Servo Motor
- Orange outer sheath
- Should CSA approval be required, a approved type is also possible to be designed as custom-made cable.

CHARACTERISTICS

- High oil resistant
- DESINA
- Braided shield
- VDGBF holds up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

APPLICATION/BENDING RADIUS

- These types are used in the extremely harsh environment where coolant is being used substantially, and suitable for internal / external wiring in devices and equipment.
- Specially developed for Servo Motor
- VDGBF is designed for continuous flexing cycles and used inside cable carriers. (Refer to Remarks indicated below)
- VDGBL is designed for fixed installation.
- EMC
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VDGBF	10D or more	6D or more
VDGBL	–	6D or more

D=Cable outer dia meter

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- The traveling length of cable carriers must be 2m or less In the case that VDGBF is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	OG	G/Y	0.12TA/0.18TA	Numbering	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E311670	E311670
CABLE DESIGNATION	A05Q2C4Q-F	0.75～1.0mm²：style 20233 1.5～35mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.75～1.0mm² 600V：1.5～35mm²	300V：0.75～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注)" is only for c UL us approved cable.

VDGBF 4C※OG FLEXING CYCLE / INSIDE CABLE CARRIER 300V/600V

Deli-very	Catalog no.	Rated voltage V	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VDGBF 4C×0.75 OG	300	18AWG (0.75mm²)	167/0.08 (1.2)	1.7	4	7.0	23.1	8.0	81.9	100
確	VDGBF 4C×1.0 OG		18AWG (1.0mm²)	7/27/0.08 (1.4)	2.1	4	8.0	20.8	8.8	99.7	
◎	VDGBF 4C×1.5 OG	600	16AWG (1.5mm²)	7/41/0.08 (1.7)	2.6	4	9.2	13.7	12.8	149	
◎	VDGBF 4C×2.5 OG		14AWG (2.5mm²)	7/70/0.08 (2.3)	3.2	4	11.2	8.04	18.4	208	
◎	VDGBF 4C×4 OG		12AWG (4mm²)	7/110/0.08 (2.8)	3.7	4	12.5	5.12	24.8	279	
◎	VDGBF 4C×6 OG		10AWG (6mm²)	7/99/0.1 (3.3)	4.4	4	14.2	3.64	32.0	370	
◎	VDGBF 4C×10 OG		8AWG (10mm²)	7/53/0.18 (4.4)	6.1	4	18.8	2.10	49.6	641	Length on order
☆	VDGBF 4C×16 OG		6AWG (16mm²)	7/84/0.18 (5.7)	7.4	4	22.6	1.32	69.6	955	
◎	VDGBF 4C×25 OG		4AWG (25mm²)	19/49/0.18 (7.0)	9.3	4	27.6	0.836	97.6	1451	
☆	VDGBF 4C×35 OG		2AWG (35mm²)	19/69/0.18 (8.2)	10.5	4	31.5	0.593	123.2	1966	

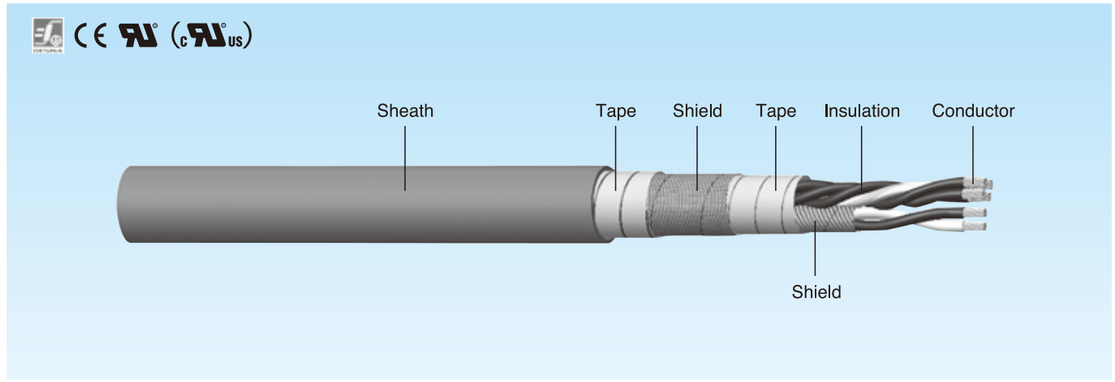
VDGBL 4C※OG FIXED INSTALLATION 300V/600V

Deli-very	Catalog no.	Rated voltage V	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VDGBL 4C×0.75 OG	300	18AWG (0.75mm²)	33/0.18 (1.2)	1.7	4	7.0	22.2	7.2	80.6	100
確	VDGBL 4C×1.0 OG		18AWG (1.0mm²)	37/0.18 (1.3)	2.0	4	7.7	19.8	8.8	94.2	
確	VDGBL 4C×1.5 OG	600	16AWG (1.5mm²)	56/0.18 (1.6)	2.5	4	9.5	13.1	12.8	142	
確	VDGBL 4C×2.5 OG		14AWG (2.5mm²)	93/0.18 (2.0)	2.9	4	10.5	7.89	16.8	190	
確	VDGBL 4C×4 OG		12AWG (4mm²)	7/20/0.18 (2.7)	3.6	4	12.2	5.34	24.0	260	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FLEXING CYCLE COMBINED EMC HALOGEN FREE

DESINA / BRAIDED SHIELD / COMBINED - SUPER SANCABLE VDKGBF※OG



INTRODUCTION

- PUR outer sheath, TPE insulation, braided shield, high oil resistant cable which is designed for continuous flexing cycles
- Combined cable (power conductors and braided shield signal conductors combine)
- Orange outer sheath
- Should CSA approval be required, an approved type is also possible to be designed as a custom-made cable.

CHARACTERISTICS

- High oil resistant
- DESINA
- Combined cable
- Braided shield
- Hold up to repeated flexing
- Abrasion & nick resistant
- Low adhesion
- Droop resistant
- Smaller outer dia meter
- Smaller bending radius

APPLICATION/BENDING RADIUS

- This type is used in the extremely harsh environment where coolant is being used substantially, in continuous flexing cycles, and Inside cable carriers. This type is suitable for internal / external wiring in devices and equipment. (Refer to Remarks indicated below)
- Servo / Inverters
- Motors
- EMC
- Minimum bending radius:

Flexing cycle	Fixed installation
10D or more	6D or more

D=Cable outer dia meter

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- This type is LUTZE cable
- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	BK	OG	G/Y	0.12TA/0.18TA	Numbering	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E197634	E197634
CABLE DESIGNATION	A05Q2C4Q-K	0.75～1.0mm²：style 20233 1.5～35mm²：style 21029	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V：0.75～1.0mm² 600V：1.5～35mm²	300V：0.75～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注）" is only for cULus approved cable.

VDKGBF 4C※+1P※OG FLEXING CYCLE / INSIDE CABLE CARRIER 600V

Deli-very	Catalog no.	Nominal cross sectional area		Conductor composition (dia.)		Insulation dia. Power conductor/ Signal conductor mm	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A		Weight kg/km	M/Coil
		Power conductor	Signal conductor	Power conductor	Signal conductor				Power conductor	Signal conductor		
確	111420 (LUTZE) VDKGBF 4C×1.5+1P×1.5 OG	16AWG (1.5mm²)	16AWG (1.5mm²)	84/0.15 (1.85)	84/0.15 (1.85)	2.3/2.3	10.5	10.5	12.0	12.0	210	Length on order
確	111421 (LUTZE) VDKGBF 4C×2.5+1P×1.5 OG	14AWG (2.5mm²)	16AWG (1.5mm²)	140/0.15 (2.2)	84/0.15 (1.85)	2.9/2.3	12.1	12.1	17.6	12.0	235	
◎	111422 (LUTZE) VDKGBF 4C×4+1P×1.5 OG	12AWG (4mm²)	16AWG (1.5mm²)	224/0.15 (2.7)	84/0.15 (1.85)	3.6/2.3	13.6	13.6	25.6	12.0	320	
◎	VDKGBF 4C×6+1P×1.0 OG	10AWG (6mm²)	18AWG (1.0mm²)	7/99/0.1 (3.3)	7/27/0.08 (1.4)	4.4/2.3	16.5	3.64/20.8	32.0	11.0	457	
確	111424 (LUTZE) VDKGBF 4C×10+1P×1.5 OG	8AWG (10mm²)	16AWG (1.5mm²)	320/0.20 (4.3)	84/0.15 (1.85)	5.5/2.3	18.3	18.3	50.4	12.0	680	
◎	111425 (LUTZE) VDKGBF 4C×16+1P×1.5 OG	6AWG (16mm²)	16AWG (1.5mm²)	512/0.20 (5.6)	84/0.15 (1.85)	6.5/2.3	21.4	21.4	69.6	12.0	860	
◎	111426 (LUTZE) VDKGBF 4C×25+1P×1.5 OG	4AWG (25mm²)	16AWG (1.5mm²)	800/0.20 (7.1)	84/0.15 (1.85)	8.4/2.3	25.7	25.7	98.4	12.0	1365	
確	111427 (LUTZE) VDKGBF 4C×35+1P×1.5 OG	2AWG (35mm²)	16AWG (1.5mm²)	1120/0.20 (8.0)	84/0.15 (1.85)	9.5/2.3	29.9	29.9	123.2	12.0	2746	
確	111428 (LUTZE) VDKGBF 4C×50+1P×1.5 OG	1/0AWG (50mm²)	16AWG (1.5mm²)	705/0.30 (9.6)	84/0.15 (1.85)	11.4/2.3	33.2	33.2	160.0	12.0	3737	

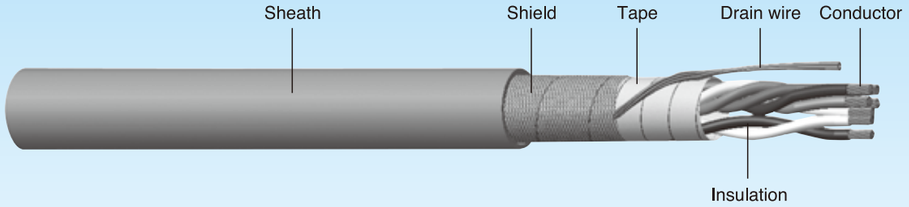
VDKGBF 4C※+2P※OG FLEXING CYCLE / INSIDE CABLE CARRIER 300V/600V

Deli-very	Catalog no.	Nominal cross sectional area		Conductor composition (dia.)		Insulation dia. Power conductor/ Signal conductor mm	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A		Weight kg/km	M/Coil
		Power conductor	Signal conductor	Power conductor	Signal conductor				Power conductor	Signal conductor		
確	111270 (LUTZE) VDKGBF 4C×1.0+2P×0.75 OG	18AWG (1.0mm²)	18AWG (0.75mm²)	56/0.15 (1.3)	42/0.15 (1.15)	2.1/1.9	11.6	19.5	8.4	7.0	232	Length on order
確	111271 (LUTZE) VDKGBF 4C×1.5+2P×0.75 OG	20AWG (1.5mm²)	18AWG (0.75mm²)	84/0.15 (1.85)	42/0.15 (1.15)	2.3/1.9	12.5	13.3	10.5	7.0	255	
◎	111272 (LUTZE) VDKGBF 4C×2.5+2P×0.75 OG	14AWG (2.5mm²)	18AWG (0.75mm²)	140/0.15 (2.1)	42/0.15 (1.15)	2.9/1.9	13.5	7.98	15.4	7.0	319	
確	111279 (LUTZE) VDKGBF 4C×2.5+2P×1.0 OG	14AWG (2.5mm²)	18AWG (1.0mm²)	140/0.15 (2.1)	56/0.15 (1.3)	2.9/2.1	13.7	7.98	15.4	8.4	330	
確	111273 (LUTZE) VDKGBF 4C×4+2P×1.0 OG	12AWG (4mm²)	18AWG (1.0mm²)	224/0.15 (2.7)	56/0.15 (1.3)	3.6/2.1	15.6	4.95	22.4	8.4	411	
確	111280 (LUTZE) VDKGBF 4C×4+2P×1.5 OG	12AWG (4mm²)	16AWG (1.5mm²)	224/0.15 (2.7)	84/0.15 (1.85)	3.6/2.3	16.0	4.95	22.4	10.5	454	
確	111274 (LUTZE) VDKGBF 4C×6+2P×1.0 OG	10AWG (6mm²)	18AWG (1.0mm²)	192/0.20 (3.2)	56/0.15 (1.3)	4.4/2.1	16.4	3.30	30.1	8.4	512	
確	111281 (LUTZE) VDKGBF 4C×6+2P×1.5 OG	10AWG (6mm²)	16AWG (1.5mm²)	192/0.20 (3.2)	84/0.15 (1.85)	4.4/2.3	17.9	3.30	30.1	10.5	540	
◎	111275 (LUTZE) VDKGBF 4C×10+2P×1.0 OG	8AWG (10mm²)	18AWG (1.5mm²)	320/0.20 (4.3)	56/0.15 (1.3)	5.5/2.1	19.3	1.91	44.1	8.4	730	
確	111282 (LUTZE) VDKGBF 4C×10+2P×1.5 OG	8AWG (10mm²)	16AWG (1.5mm²)	320/0.20 (4.3)	84/0.15 (1.85)	5.5/2.3	19.8	1.91	44.1	10.5	735	
確	111276 (LUTZE) VDKGBF 4C×16+2P×1.5 OG	6AWG (16mm²)	16AWG (1.5mm²)	512/0.20 (5.6)	84/0.15 (1.85)	6.5/2.3	23.2	1.21	60.9	10.5	1064	
確	111277 (LUTZE) VDKGBF 4C×25+2P×1.5 OG	4AWG (25mm²)	16AWG (1.5mm²)	800/0.20 (7.1)	84/0.15 (1.85)	8.4/2.3	29.4	0.780	86.1	10.5	1714	
確	111278 (LUTZE) VDKGBF 4C×35+2P×1.5 OG	2AWG (35mm²)	16AWG (1.5mm²)	1120/0.20 (8.0)	84/0.15 (1.85)	9.5/2.3	32.0	0.554	107.8	10.5	2176	

Contact us for information of product availability and delivery

HIGH OIL RESISTANCE TPE+PUR FLEXING CYCLE FOR FANUC SERVO MOTOR EMC HALOGEN FREE

DEVELOPED FOR FANUC SERVO MOTOR VDKGBF※GN



INTRODUCTION

- PUR outer sheath, TPE insulation, braided shield, high oil resistant cable which is designed for continuous flexing cycles
- Combined cable / In compliance with DESINA
- Green outer sheath
- Should CSA approval be required, an approved type is also possible to be designed as custom-made cable.

CHARACTERISTICS

- High Oil resistant
- DESINA / Combined cable
- Braided shield
- Hold up to repeated flexing
- Abrasion & nick resistant

APPLICATION/BENDING RADIUS

- This type is used in the extremely harsh environment where coolant is being used substantially, in continuous flexing cycles, and inside cable carriers. (Refer to Remarks indicated below). This type is suitable for internal / external wiring in devices and equipment.
- Specially developed for FANUC Servo Motor
- EMC
- Minimum bending radius:

Flexing cycle	Fixed installation
10D or more	6D or more

D=Cable outer dia meter

REMARKS

- Coolant at 50°C or higher must NOT be used in the environment where coolant is perpetually / continuously being brought into contact with this type.
- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		DRAIN WIRE	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
TPE	PUR	Ref. Next page	GN	0.08TA	0.12TA	Color identification	Ref. Next page	Conformity

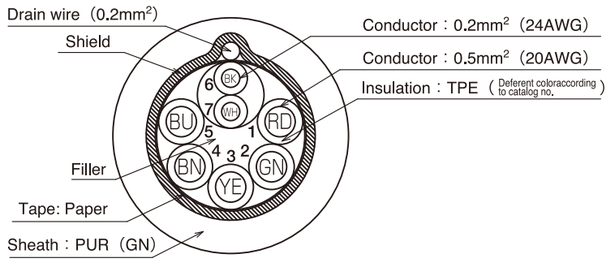
APPROVAL / CHARACTERISTICS

SUBJECT	CE	UL	注）cUL
STANDARD	2006/95/EC	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E311670	E311670
CABLE DESIGNATION	Li12YC11Y	style 20233	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	1200V/1 min.	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km（at20℃）		
LIMITING TEMPERATURE	0℃～70℃	80℃	80℃
FLAME RETARDANT	EN 50265-2-1（IEC 60332-1）	VW-1	FT1

＊Data in the chart of "注)" is only for cULus approved cable.

VDKGBF 5C×0.5+1P×0.2 GN FLEXING CYCLE 300V

Delivery	Catalog no.	Nominal cross sectional area		Conductor composition (dia.)		Insulation dia. Power conductor/ Signal conductor mm	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A		Weight kg/km	M/Coil
		Power conductor	Signal conductor	Power conductor	Signal conductor				Power conductor	Signal conductor		
◎	VDKGBF 5C×0.5+1P×0.2 GN	20AWG (0.5mm²)	24AWG (0.2mm²)	110/0.08 (1.0)	41/0.08 (0.6)	1.5/1.1	7.5	35.1/94.2	4.9	2.8	91.8	100

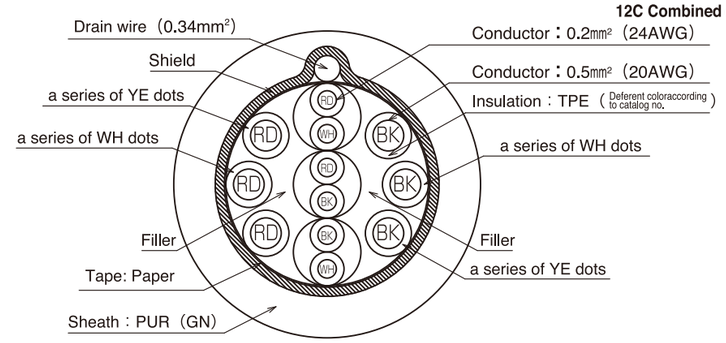


7C Combined cable designed for FANUC SERVO MOTOR・αi series：Pulse coder
FANUC specification no.; A66L-0001-0462

Core no.	Identification	Dot. mark
1	RD	–
2	GN	–
3	YE	–
4	BN	–
5	BU	–
6	BK	a set of 1 WH dot marked at regular intervals
7	WH	–

VDKGBF 6C×0.5+3P×0.2 GN FLEXING CYCLE 300V

Delivery	Catalog no.	Nominal cross sectional area		Conductor composition (dia.)		Insulation dia. Power conductor/ Signal conductor mm	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A		Weight kg/km	M/Coil
		Power conductor	Signal conductor	Power conductor	Signal conductor				Power conductor	Signal conductor		
◎	VDKGBF 6C×0.5+3P×0.2 GN	20AWG (0.5mm²)	24AWG (0.2mm²)	110/0.08 (1.0)	41/0.08 (0.6)	1.5/1.1	8.8	35.1/94.2	3.5	2.0	118	100

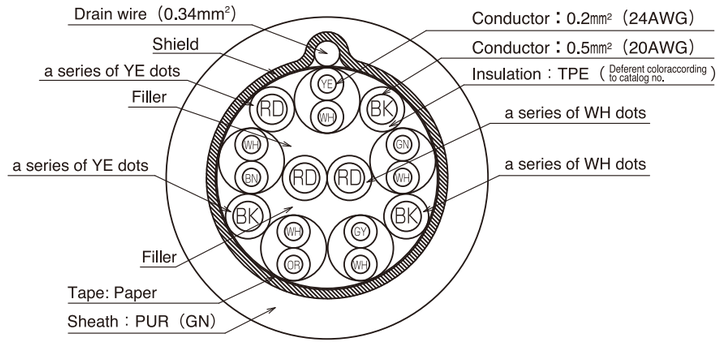


12C Combined cable designed for FANUC SERVO MOTOR：Pulse coder
FANUC specification no.; A66L-0001-0286

Core no.	Identification	Dot. mark
1	BK	–
2	BK	a series of WH dots
3	BK	a series of YE dots
4	RD	–
5	RD	a series of WH dots
6	RD	a series of YE dots
7	WH×RD	a set of 1 BK dot marked at regular intervals on WH core
8	BK×RD	a set of 1 WH dot marked at regular intervals on RD core
9	WH×BK	a set of 1 WH dot marked at regular intervals on BK core

VDKGBF 6C×0.5+5P×0.2 GN FLEXING CYCLE 300V

Delivery	Catalog no.	Nominal cross sectional area		Conductor composition (dia.)		Insulation dia. Power conductor/ Signal conductor mm	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A		Weight kg/km	M/Coil
		Power conductor	Signal conductor	Power conductor	Signal conductor				Power conductor	Signal conductor		
◎	VDKGBF 6C×0.5+5P×0.2 GN	20AWG (0.5mm²)	24AWG (0.2mm²)	110/0.08 (1.0)	41/0.08 (0.6)	1.5/1.1	9.5	35.1/94.2	3.5	2.0	136	100

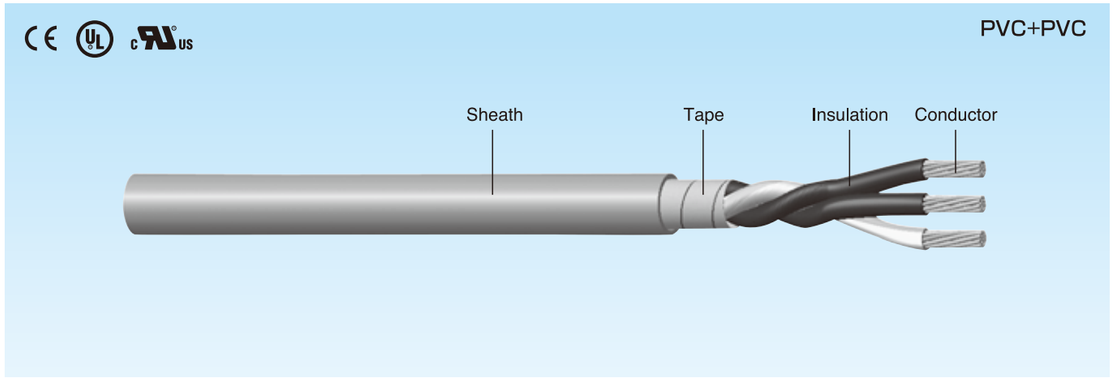


13C Combined cable designed for FANUC SERVO MOTOR: αi sensor, αiz sensor ...
FANUC specification no.; A66L-0001-0333

Core no.	Identification	Dot. mark
1	RD	–
2	RD	a series of WH dots
3	WH×YE	–
4	BK	–
5	WH×GN	a set of 1 BK dot marked at regular intervals on WH core
6	BK	a series of WH dots
7	WH×BN	a set of 2 BK dots marked at regular intervals on WH core
8	WH×OR	a set of 3 BK dots marked at regular intervals on WH core
9	BK	a series of YE dots
10	WH×GY	a series of BK dots marked on WH core
11	RD	a series of YE dots

OIL RESISTANCE MTW

SANCABLE VMF,VML



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- MTW approved cable
- Rated voltage 600V
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray / wiring drooping from a tray

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, and suitable for wiring in a tray / wiring drooping from a tray as well as internal / external wiring in devices and equipment.
- VMF is designed for continuous flexing cycles, and used inside cable carriers. (Refer to Remarks indicated below)
- VML is designed for fixed installation.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VMF	10D or more	4D or more
VML	—	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- MTW / TC-ER approval
- VMF holds up to repeated flexing
- Oil resistant

REMARKS

- The traveling length of cable carriers must be 2m or less In the case that VMF is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	—	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	cUL
		注2) TC-ER	MTW		
STANDARD	HD21	UL1277	UL1063	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	—	E312607	E312605	E311670	E311670
CABLE DESIGNATION	0.5～2.5mm²：H05VV5-F 4～35mm²：A05VV5-F	Type TC-ER	Type MTW	Style 2586	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	600V		600V	600V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.			
INSULATION RESISTANCE	200MΩ・km（at20℃）				
LIMITING TEMPERATURE	0℃～70℃	90℃：dry	75℃：wet	105℃	105℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	VW-1	VW-1	FT1

Note 注2) : TC-ER applies to only Cross Section 0.75mm² or bigger size.

VMF FLEXING CYCLE 600V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VMF 2CN×0.5	2.7	8.1	11.0	73.9	100
確	VMF 3C×0.5		8.6	11.0	88.1	
確	VMF 4C×0.5		9.3	8.8	106	
確	VMF 5C×0.5		10.1	8.8	124	
◎	VMF 6C×0.5		11.0	8.8	144	
◎	VMF 7C×0.5		11.8	7.7	164	
確	VMF 8C×0.5		13.5	7.7	211	
◎	VMF 10C×0.5		14.3	5.5	240	
◎	VMF 12C×0.5		14.8	5.5	266	
確	VMF 16C×0.5		16.3	5.5	329	
確	VMF 18C×0.5		17.2	5.5	362	
確	VMF 20C×0.5		18.0	5.5	396	
◎	VMF 2CN×0.75	2.9	8.7	15.0	88.5	100
確	VMF 3C×0.75		9.2	15.0	107	
◎	VMF 4C×0.75		10.0	12.0	129	
確	VMF 5C×0.75		10.9	12.0	152	
◎	VMF 6C×0.75		11.8	12.0	175	
確	VMF 7C×0.75		12.7	10.5	200	
確	VMF 8C×0.75		14.2	10.5	246	
確	VMF 10C×0.75		15.1	7.5	283	
確	VMF 12C×0.75		15.6	7.5	316	
◎	VMF 16C×0.75		17.3	7.5	394	
確	VMF 18C×0.75		18.2	7.5	434	Length on order
確	VMF 20C×0.75		19.1	7.5	476	
確	VMF 2CN×1.0	3.1	9.1	16.0	95.9	100
確	VMF 3C×1.0		9.7	16.0	117	
確	VMF 4C×1.0		10.5	12.8	141	
確	VMF 5C×1.0		11.4	12.8	166	
確	VMF 6C×1.0		12.4	12.8	193	
確	VMF 7C×1.0		14.0	11.2	241	
確	VMF 8C×1.0		15.0	11.2	270	
確	VMF 10C×1.0		15.9	8.0	311	
確	VMF 12C×1.0		16.5	8.0	348	
確	VMF 16C×1.0		18.2	8.0	435	Length on order
確	VMF 18C×1.0		19.2	8.0	480	
確	VMF 20C×1.0		20.2	8.0	527	
◎	VMF 2CN×1.5	3.4	9.7	21.0	114	100
◎	VMF 3C×1.5		10.3	21.0	140	
◎	VMF 4C×1.5		11.2	16.8	170	
確	VMF 5C×1.5		12.3	16.8	203	
確	VMF 6C×1.5		13.9	16.8	257	
確	VMF 7C×1.5		15.0	14.7	293	
確	VMF 8C×1.5		16.1	14.7	330	
確	VMF 10C×1.5		17.1	10.5	382	
確	VMF 12C×1.5		17.7	10.5	432	Length on order
確	VMF 16C×1.5		19.7	10.5	544	
確	VMF 18C×1.5		20.7	10.5	602	
確	VMF 20C×1.5		22.8	10.5	717	
確	VMF 2CN×2.5	4.0	10.9	30.0	149	100
確	VMF 3C×2.5		11.6	30.0	187	
◎	VMF 4C×2.5		12.7	24.0	231	
確	VMF 5C×2.5		14.5	24.0	299	
確	VMF 6C×2.5		15.7	24.0	349	
◎	VMF 7C×2.5		17.0	21.0	400	
確	VMF 8C×2.5		18.3	21.0	452	Length on order
◎	VMF 10C×2.5		19.5	15.0	529	
確	VMF 12C×2.5		20.2	15.0	603	
確	VMF 16C×2.5		23.5	15.0	825	
確	VMF 18C×2.5		25.1	15.0	929	
確	VMF 20C×2.5		26.4	15.0	1020	
確	VMF 2CN×4	4.5	11.9	40.0	197	100
確	VMF 3C×4		12.7	40.0	255	
◎	VMF 4C×4		14.5	32.0	342	
確	VMF 5C×4		15.9	32.0	411	Length on order
◎	VMF 4C×6	5.0	15.7	40.0	428	Length on order

VML FIXED INSTALLATION 600V

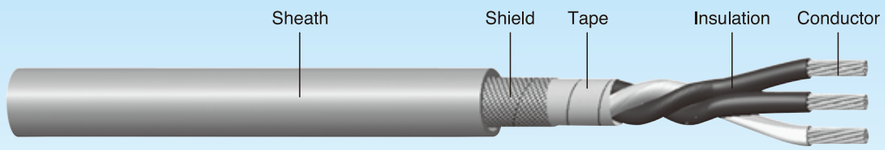
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VML 2CN×0.5	2.65	8.0	11.0	71.9	100
確	VML 3C×0.5		8.5	11.0	85.3	
確	VML 4C×0.5		9.2	8.8	102	
確	VML 5C×0.5		9.9	8.8	120	
確	VML 6C×0.5		10.7	8.8	138	
確	VML 7C×0.5		10.7	7.7	147	
確	VML 8C×0.5		11.6	7.7	166	
◎	VML 10C×0.5		13.3	5.5	204	
確	VML 12C×0.5		14.6	5.5	257	
◎	VML 18C×0.5		16.8	5.5	348	
◎	VML 2CN×0.75	2.9	8.7	14.0	87.9	100
◎	VML 3C×0.75		9.2	14.0	106	
◎	VML 4C×0.75		10.0	11.2	127	
確	VML 5C×0.75		10.8	11.2	149	
確	VML 6C×0.75		11.7	11.2	172	
◎	VML 7C×0.75		11.7	9.8	185	
確	VML 8C×0.75		12.6	9.8	209	
◎	VML 10C×0.75		15.1	7.0	280	
◎	VML 12C×0.75		15.6	7.0	312	
確	VML 2C×1.0	3.0	8.9	16.0	92.3	100
確	VML 3C×1.0		9.4	16.0	112	
確	VML 4C×1.0		10.2	12.8	134	
確	VML 5C×1.0		11.1	12.8	158	
確	VML 6C×1.0		12.0	12.8	183	
確	VML 7C×1.0		12.0	11.2	196	
◎	VML 10C×1.0		15.5	8.0	297	
◎	VML 20C×1.0		19.3	8.0	495	Length on order
◎	VML 2CN×1.5	3.3	9.5	21.0	109	100
◎	VML 3C×1.5		10.1	21.0	134	
◎	VML 4C×1.5		11.0	16.8	163	
◎	VML 5C×1.5		11.9	16.8	193	
確	VML 6C×1.5		13.5	16.8	245	
◎	VML 7C×1.5		13.5	14.7	263	
◎	VML 8C×1.5		14.5	14.7	297	
◎	VML 10C×1.5		16.7	10.5	365	
◎	VML 20C×1.5		20.8	10.5	606	
◎	VML 2CN×2.5	3.7	10.3	28.0	137	100
◎	VML 3C×2.5		10.9	28.0	172	
◎	VML 4C×2.5		11.9	22.4	212	
◎	VML 5C×2.5		13.6	22.4	274	
◎	VML 6C×2.5		14.7	22.4	318	
◎	VML 7C×2.5		14.7	19.6	346	
◎	VML 8C×2.5		15.9	19.6	392	
◎	VML 10C×2.5		18.3	14.0	495	
◎	VML 12C×2.5		18.9	14.0	551	Length on order
◎	VML 20C×2.5		23.9	14.0	908	
◎	VML 30C×2.5		28.7	12.6	1299	
◎	VML 2CN×4	4.4	11.7	38.0	179	100
◎	VML 3C×4		12.4	38.0	228	
◎	VML 4C×4		14.2	30.4	305	
確	VML 5C×4		15.5	30.4	365	
確	VML 6C×4		16.8	30.4	427	Length on order
確	VML 7C×4		16.8	36.6	467	
◎	VML 2CN×6	5.1	13.7	52.0	259	100
◎	VML 3C×6		14.6	52.0	332	
◎	VML 4C×6		15.9	41.6	414	
確	VML 5C×6		17.4	41.6	500	Length on order
確	VML 6C×6		18.9	14.6	588	
◎	VML 7C×6		18.9	36.4	649	
◎	VML 2CN×10	7.0	17.5	78.0	408	Length on order
確	VML 3C×10		18.7	78.0	532	
◎	VML 4C×10		20.5	62.4	672	
確	VML 2CN×16	8.9	22.3	108.0	657	Length on order
確	VML 3C×16		23.8	108.0	856	
◎	VML 4C×16		26.6	86.4	1097	
確	VML 2CN×25	10.4	25.7	148.0	913	Length on order
確	VML 3C×25		27.4	148.0	1206	
確	VML 4C×25		30.2	118.4	1532	
確	VML 2CN×35	11.7	28.3	187.0	1179	Length on order
確	VML 3C×35		30.2	187.0	1581	
確	VML 4C×35		33.4	149.6	2023	

Contact us for information of product availability and delivery

OIL RESISTANCE MTW EMC

BRAIDED SHIELD - SANCABLE VMBF,VMBL

PVC+PVC



INTRODUCTION

- PVC outer sheath, PVC insulation, braided shield, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- MTW approved cable
- Rated voltage 600V
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray / wiring drooping from a tray

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, and suitable for wiring in a tray / wiring drooping from a tray as well as internal / external wiring in devices and equipment.
- VMBF is designed for continuous flexing cycles, and used inside cable carriers. (Refer to Remarks indicated below)
- VMBL is designed for fixed installation.
- EMC
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VMBF	10D or more	6D or more
VMBL	—	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- MTW / TC-ER approval
- Braided shield
- VMBF holds up to repeated flexing
- Oil resistant

REMARKS

- The traveling length of cable carriers must be 2m or less In the case that VMBF is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	0.12TA/0.18TA	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	cUL
		注2) TC-ER	MTW		
STANDARD	HD21	UL1277	UL1063	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	—	E312607	E312605	E311670	E311670
CABLE DESIGNATION	0.5～2.5mm²：H05VC4V5-K 4～35mm²：A05VC4V5-K	Type TC-ER	Type MTW	Style 2586	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	600V		600V	600V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.			
INSULATION RESISTANCE	200MΩ・km（at20℃）				
LIMITING TEMPERATURE	0℃～70℃	90℃：dry	75℃：wet	105℃	105℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	VW-1	VW-1	FT1

Note 注2) : TC-ER applies to only Cross Section 0.75mm² or bigger size.

VMBF FLEXING CYCLE 600V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VMBF 2CN×0.5	2.7	8.7	11.0	97.5	100
確	VMBF 3C×0.5		9.2	11.0	114	
確	VMBF 4C×0.5		9.9	8.8	134	
確	VMBF 5C×0.5		10.7	8.8	155	
確	VMBF 6C×0.5		11.6	8.8	177	
確	VMBF 7C×0.5		12.4	7.7	200	
確	VMBF 8C×0.5		13.3	7.7	223	
確	VMBF 10C×0.5		14.9	5.5	283	
確	VMBF 12C×0.5		15.4	5.5	311	
確	VMBF 16C×0.5		17.2	5.5	403	
確	VMBF 18C×0.5		18.1	5.5	440	Length on order
確	VMBF 20C×0.5		18.9	5.5	478	
確	VMBF 2CN×0.75	2.9	9.3	15.0	114	100
確	VMBF 3C×0.75		9.8	15.0	134	
確	VMBF 4C×0.75		10.6	12.0	158	
確	VMBF 5C×0.75		11.5	12.0	184	
確	VMBF 6C×0.75		12.4	12.0	211	
確	VMBF 7C×0.75		13.3	10.5	239	
確	VMBF 8C×0.75		14.8	10.5	289	
確	VMBF 10C×0.75		15.7	7.5	329	
確	VMBF 12C×0.75		16.5	7.5	389	
確	VMBF 16C×0.75		18.2	7.5	475	Length on order
確	VMBF 18C×0.75		19.1	7.5	520	
確	VMBF 20C×0.75		20.0	7.5	572	
確	VMBF 2CN×1.0	3.1	9.7	16.0	123	100
確	VMBF 3C×1.0		10.3	16.0	145	
確	VMBF 4C×1.0		11.1	12.8	172	
確	VMBF 5C×1.0		12.0	12.8	201	
確	VMBF 6C×1.0		13.0	12.8	230	
確	VMBF 7C×1.0		14.6	11.2	283	
確	VMBF 8C×1.0		15.6	11.2	316	
確	VMBF 10C×1.0		16.8	8.0	385	
確	VMBF 12C×1.0		17.4	8.0	425	Length on order
確	VMBF 16C×1.0		19.1	8.0	521	
確	VMBF 18C×1.0		20.1	8.0	571	
確	VMBF 20C×1.0		21.1	8.0	634	
確	VMBF 2CN×1.5	3.4	10.3	21.0	142	100
確	VMBF 3C×1.5		10.9	21.0	170	
確	VMBF 4C×1.5		11.8	16.8	204	
確	VMBF 5C×1.5		12.9	16.8	240	
確	VMBF 6C×1.5		14.5	16.8	299	
確	VMBF 7C×1.5		15.6	14.7	338	
確	VMBF 8C×1.5		17.0	14.7	404	
確	VMBF 10C×1.5		18.0	10.5	462	Length on order
確	VMBF 12C×1.5		18.6	10.5	515	
確	VMBF 16C×1.5		20.6	10.5	637	
確	VMBF 18C×1.5		22.6	10.5	756	
確	VMBF 20C×1.5		23.7	10.5	845	
確	VMBF 2CN×2.5	4.0	11.5	30.0	182	100
確	VMBF 3C×2.5		12.2	30.0	222	
確	VMBF 4C×2.5		13.3	24.0	270	
確	VMBF 5C×2.5		15.1	24.0	343	
確	VMBF 6C×2.5		16.6	24.0	422	Length on order
確	VMBF 7C×2.5		17.9	21.0	480	
確	VMBF 8C×2.5		19.2	21.0	539	
確	VMBF 10C×2.5		20.4	15.0	622	
確	VMBF 12C×2.5		21.1	15.0	699	
確	VMBF 16C×2.5		24.4	15.0	935	
確	VMBF 18C×2.5		26.0	15.0	1046	
確	VMBF 20C×2.5		27.3	15.0	1188	
確	VMBF 2CN×4	4.5	12.5	40.0	226	100
確	VMBF 3C×4		13.3	40.0	282	
確	VMBF 4C×4		15.1	32.0	369	
確	VMBF 5C×4		16.8	32.0	465	Length on order
確	VMBF 4C×6	5.0	16.6	40.0	480	Length on order

VMBL FIXED INSTALLATION 600V

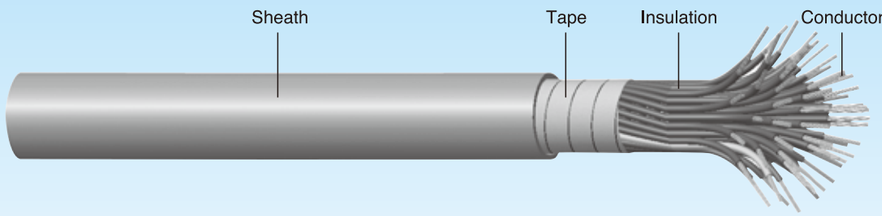
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VMBL 2CN×0.5	2.65	8.6	11.0	95.2	100
確	VMBL 3C×0.5		9.1	11.0	111	
確	VMBL 4C×0.5		9.8	8.8	130	
確	VMBL 6C×0.5		10.5	8.8	150	
確	VMBL 7C×0.5		11.3	7.7	171	
確	VMBL 8C×0.5		11.3	7.7	180	
確	VMBL 2CN×0.75	2.9	9.3	14.0	114	100
確	VMBL 3C×0.75		9.8	14.0	133	
確	VMBL 4C×0.75		10.6	11.2	157	
確	VMBL 5C×0.75		11.4	11.2	182	
確	VMBL 6C×0.75		12.3	11.2	208	
確	VMBL 7C×0.75		12.3	9.8	220	
確	VMBL 8C×0.75		13.2	9.8	247	
確	VMBL 2CN×1.0	3.0	9.5	16.0	119	100
確	VMBL 3C×1.0		10.0	16.0	139	
確	VMBL 4C×1.0		10.8	12.8	165	
確	VMBL 5C×1.0		11.7	12.8	192	
◎	VMBL 6C×1.0		12.6	12.8	219	
確	VMBL 7C×1.0		12.6	11.2	233	
◎	VMBL 15C×1.0		18.2	8.0	476	Length on order
確	VMBL 2CN×1.5	3.3	10.1	21.0	137	100
◎	VMBL 3C×1.5		10.7	21.0	164	
確	VMBL 4C×1.5		11.6	16.8	196	
確	VMBL 5C×1.5		12.5	16.8	229	
確	VMBL 6C×1.5		13.5	16.8	264	
確	VMBL 7C×1.5		13.5	14.7	283	
確	VMBL 2CN×2.5	3.7	10.9	28.0	168	100
確	VMBL 3C×2.5		11.5	28.0	205	
◎	VMBL 4C×2.5		12.5	22.4	248	
確	VMBL 5C×2.5		13.6	22.4	295	
確	VMBL 6C×2.5		15.3	22.4	363	
確	VMBL 7C×2.5		15.3	19.6	391	
確	VMBL 2CN×4	4.4	12.3	38.0	214	100
確	VMBL 3C×4		13.0	38.0	266	
確	VMBL 4C×4		14.8	30.4	348	
確	VMBL 5C×4		16.4	30.4	437	Length on order
確	VMBL 6C×4		17.7	30.4	506	
確	VMBL 7C×4		17.7	26.6	546	
確	VMBL 2CN×6	5.1	14.3	52.0	300	100
確	VMBL 3C×6		15.2	52.0	376	
確	VMBL 4C×6		16.8	41.6	488	
確	VMBL 5C×6		18.3	41.6	582	Length on order
確	VMBL 6C×6		19.8	41.6	677	
確	VMBL 7C×6		19.8	36.4	738	
確	VMBL 2CN×10	7.0	18.4	78.0	490	Length on order
確	VMBL 3C×10		19.6	78.0	620	
確	VMBL 4C×10		22.4	62.4	825	
確	VMBL 2CN×16	8.9	23.2	108.0	761	Length on order
確	VMBL 3C×16		24.7	108.0	967	
確	VMBL 4C×16		27.5	86.4	1220	
確	VMBL 2CN×25	10.4	26.6	148.0	1032	Length on order
確	VMBL 3C×25		28.3	148.0	1334	
確	VMBL 4C×25		31.1	118.4	1674	
確	VMBL 2CN×35	11.7	29.2	187.0	1312	Length on order
確	VMBL 3C×35		31.1	187.0	1724	
確	VMBL 4C×35		34.3	149.6	2181	

Contact us for information of product availability and delivery

OIL RESISTANCE MTW WITH 2.5mm² GROUND CONDUCTOR

SANCABLE VMTF,VMTL,VMTPF

PVC+PVC



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- Rated voltage 600V
- 2.5mm² ground conductor
- MTW approved cable
- Twisted pare conductor; (Type; VMTPF)

- For production devices and equipment in the automotive industry
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray / wiring drooping from a tray

CHARACTERISTICS

- MTW / TC-ER approval
- 2.5mm² ground conductor
- VMTF/VMTPF holds up to repeated flexing
- Oil resistant

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, and suitable for wiring in a tray / wiring drooping from a tray as well as internal / external wiring in devices and equipment.
- Specially developed for production devices and equipment in the automotive industry
- VMTF/VMTPF is/are designed for continuous flexing cycles, and used inside cable carriers. (Refer to Remarks indicated below)
- VMTL is designed for fixed installation.

Type	Flexing cycle	Fixed installation
VMTF	10D or more	4D or more
VMTPF		
VMTL	–	6D or more

D=Cable outer dia meter

REMARKS

- Among these 3 types, VMTPF is only a type in which twisted pare conductors are being used.
- The traveling length of cable carriers must be 2m or less in the case that VMTF/VMTPF is/are used inside cable carriers.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BU	LG	2.5mm² G/Y	–	Numbering	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	cUL
		TC-ER	MTW		
STANDARD	HD21	UL1277	UL1063	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	–	E312607	E312605	E311670	E311670
CABLE DESIGNATION	H05VV5-F	Type TC-ER	Type MTW	Style 2586	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	600V		600V	600V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/1 min.			
INSULATION RESISTANCE	200MΩ・km (at20℃)				
LIMITING TEMPERATURE	0℃～70℃	90℃：dry	75℃：wet	105℃	105℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	VW-1	VW-1	FT1

VMTF FLEXING CYCLE WITH 2.5 ㎟ GROUND CONDUCTOR 600V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VMTF 2C×0.75+E	18AWG (0.75mm²) Ground conductor E 14AWG (2.5mm²)	167/0.08A (1.2mm) Ground conductor E 7/70/0.08A (2.3mm)	2.9	2 + 1	10.0	23.1	15.0	143	100
確	VMTF 3C×0.75+E				3 + 1	10.7		12.0	164	
確	VMTF 4C×0.75+E				4 + 1	11.5		12.0	186	
確	VMTF 7C×0.75+E				7 + 1	14.7		10.5	281	
確	VMTF 10C×0.75+E				10 + 1	15.7		7.5	329	
確	VMTF 20C×0.75+E			4.0	20 + 1	20.5	8.04	6.8	538	Length on order
確	VMTF 24C×0.75+E				24 + 1	22.6		6.8	665	
確	VMTF 30C×0.75+E				30 + 1	24.4		6.0	772	
確	VMTF 40C×0.75+E				40 + 1	27.7		5.3	983	
確	VMTF 50C×0.75+E				50 + 1	30.6		5.3	1181	

・ Number of cores column in the above chart shows the number of 0.75mm² conductor(s) and 2.5mm² ground conductor(s) e.g.) 2 + 1 shows 0.75mm² conductors x 2, and 2.5mm² ground conductor x 1 make up 3 conductors

VMTL FIXED INSTALLATION WITH 2.5 ㎟ GROUND CONDUCTOR 600V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
◎	VMTL 2C×0.75+E	18AWG (0.75mm²) Ground conductor E 14AWG (2.5mm²)	33/0.18A (1.2mm) Ground conductor E 93/0.18A (2.0mm)	2.9	2 + 1	9.8	2.22	14.0	136	100
◎	VMTL 3C×0.75+E				3 + 1	10.5		11.2	156	
◎	VMTL 4C×0.75+E				4 + 1	11.3		11.2	178	
確	VMTL 7C×0.75+E				7 + 1	13.0		9.8	238	
確	VMTL 10C×0.75+E				10 + 1	15.5		7.0	320	
確	VMTL 20C×0.75+E			3.7	20 + 1	19.2	7.89	6.3	509	Length on order
確	VMTL 24C×0.75+E				24 + 1	21.3		6.3	594	
確	VMTL 30C×0.75+E				30 + 1	23.8		5.6	748	
確	VMTL 40C×0.75+E				40 + 1	27.2		4.9	957	
確	VMTL 50C×0.75+E				50 + 1	29.7		4.9	1143	

・ Number of cores column in the above chart shows the number of 0.75mm² conductor(s) and 2.5mm² ground conductor(s) e.g.) 2 + 1 shows 0.75mm² conductors x 2, and 2.5mm² ground conductor x 1 make up 3 conductors

VMTL FIXED INSTALLATION 600V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VMTL 17C×2.5	14AWG (2.5mm)	93/0.18A (2.0mm)	3.7	17	23.1	7.89	14.0	798	Length on order

VMTPF FLEXING CYCLE Twisted pair with 2.5 ㎟ ground conductor 600V

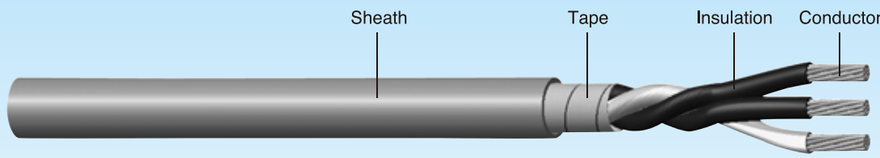
Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VMTPF 15P×0.75+E	18AWG (0.75mm²) Ground conductor E 14AWG (2.5mm²)	167/0.08A (1.2mm) Ground conductor E 7/70/0.08A (2.3mm)	2.9 4.0	15P + 1C	28.0	24.0 8.36	6.0	646	Length on order

Contact us for information of product availability and delivery

OIL RESISTANCE CL3 FLEXING CYCLE

SANCABLE VLF

PVC+PVC



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for continuous flexing cycles
- Rated voltage 300V
- CL3, CM approved cable
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray

APPLICATION/BENDING RADIUS

- VLF is used in the harsh environment where coolant is being used, in continuous flexing cycles, and Inside cable carriers (Refer to Remarks indicated below). This type is suitable for wiring in a tray as well as internal / external wiring in devices and equipment.
- Specially developed for compliance with NFPA70 Class 2 (300V or less)
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VLF	10D or more	4D or more

D=Cable outer dia meter

CHARACTERISTICS

- CL3, CM approval
- Hold up to repeated flexing
- Oil resistant

REMARKS

- The traveling length of cable carriers must be 2m or less in the case that this type is used inside cable carriers.
- Available on request: a custom-made cable with identifying colors for the identity of insulation

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	—	Numbering (0.34mm² Color identification)	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	c(UL)	cUL
STANDARD	VDE0281	UL13	UL444	UL758	C22.2 No.214	C22.2 No.210.2
CERTIFICATE NUMBER	—	E319072	E335805	E311670	E335805	E311670
CABLE DESIGNATION	0.5～2.5mm²：H03VV5-F 4mm²：A05VV5-F	Type CL3	Type CMG	Style 21222	Type CMG	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	0.5～2.5mm²：300/300V 4mm²：300/500V	300V	300V	300V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	1500V/2 sec.	1500V/2 sec.	2000V/1 min.	1500V/2 sec.	2000V/1 min.
INSULATION RESISTANCE	100MΩ・km (at20℃)					
LIMITING TEMPERATURE	0℃～70℃	90℃	90℃	90℃	90℃	90℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	FT4	VW-1	FT4	FT1

VLF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLF 2C×0.34	1.75	5.6	5.0	38.1	100
確	VLF 3C×0.34		5.9	5.0	45.3	
確	VLF 4C×0.34		6.4	4.0	53.9	
確	VLF 5C×0.34		6.9	4.0	63.3	
確	VLF 6C×0.34		7.5	4.0	73.1	
◎	VLF 7C×0.34		8.0	3.5	83.3	
確	VLF 8C×0.34		8.8	3.5	98.1	
確	VLF 2CN×0.5	1.9	5.9	9.0	44.4	100
◎	VLF 3C×0.5		6.3	9.0	53.7	
◎	VLF 4C×0.5		6.8	7.2	64.8	
◎	VLF 5C×0.5		7.3	7.2	76.6	
◎	VLF 6C×0.5		7.9	7.2	88.9	
◎	VLF 7C×0.5		8.7	6.3	107	
◎	VLF 8C×0.5		9.4	6.3	120	
◎	VLF 10C×0.5		9.9	4.5	138	
確	VLF 12C×0.5		10.3	4.5	156	
◎	VLF 16C×0.5		11.3	4.5	195	
◎	VLF 18C×0.5		11.9	4.5	216	
確	VLF 20C×0.5		12.5	4.5	237	
◎	VLF 2CN×0.75	2.1	6.3	11.0	53.3	100
確	VLF 3C×0.75		6.7	11.0	65.8	
◎	VLF 4C×0.75		7.3	8.8	80.3	
◎	VLF 5C×0.75		7.9	8.8	95.8	
◎	VLF 6C×0.75		8.7	8.8	117	
確	VLF 7C×0.75		9.4	7.7	134	
確	VLF 8C×0.75		10.1	7.7	151	
確	VLF 10C×0.75		10.7	5.5	178	
確	VLF 12C×0.75		11.1	5.5	201	
確	VLF 16C×0.75		12.3	5.5	254	
確	VLF 18C×0.75		12.9	5.5	282	
確	VLF 20C×0.75		13.6	5.5	311	
確	VLF 2CN×1.0	2.3	6.7	13.0	59.3	100
確	VLF 3C×1.0		7.1	13.0	73.5	
◎	VLF 4C×1.0		7.8	10.4	90.0	
確	VLF 5C×1.0		8.6	10.4	112	
◎	VLF 6C×1.0		9.4	10.4	131	
◎	VLF 7C×1.0		10.1	9.1	150	
確	VLF 8C×1.0		10.8	9.1	170	
確	VLF 10C×1.0		11.5	6.5	198	
確	VLF 12C×1.0		11.9	6.5	225	
確	VLF 16C×1.0		13.2	6.5	285	
確	VLF 18C×1.0		14.0	6.5	317	
確	VLF 20C×1.0		14.7	6.5	349	

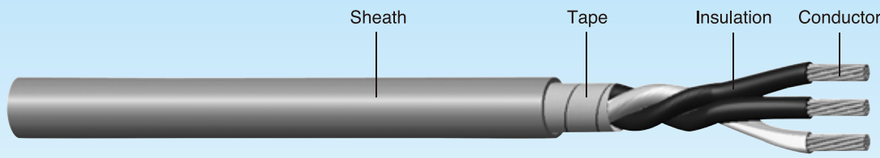
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLF 2CN×1.5	2.6	7.3	17.0	74.3	100
確	VLF 3C×1.5		7.8	17.0	93.8	
◎	VLF 4C×1.5		8.7	13.6	121	
確	VLF 5C×1.5		9.5	13.6	145	
確	VLF 6C×1.5		10.3	13.6	170	
確	VLF 7C×1.5		11.1	11.9	196	
確	VLF 8C×1.5		11.9	11.9	222	
確	VLF 10C×1.5		12.7	8.5	261	
確	VLF 12C×1.5		13.2	8.5	298	
確	VLF 16C×1.5		14.7	8.5	382	
確	VLF 18C×1.5		16.1	8.5	448	Length on order
確	VLF 20C×1.5		16.9	8.5	494	
確	VLF 2CN×2.5	3.4	9.1	25.0	117	100
確	VLF 3C×2.5		9.7	25.0	149	
◎	VLF 4C×2.5		10.6	20.0	186	
確	VLF 5C×2.5		11.7	20.0	225	
確	VLF 6C×2.5		12.7	20.0	265	
確	VLF 7C×2.5		13.8	17.5	307	
確	VLF 8C×2.5		14.9	17.5	350	
確	VLF 10C×2.5		16.5	12.5	438	Length on order
確	VLF 12C×2.5		17.1	12.5	500	
確	VLF 16C×2.5		19.1	12.5	641	
確	VLF 18C×2.5		20.1	12.5	724	
確	VLF 20C×2.5		21.8	12.5	831	
確	VLF 2CN×4	3.9	10.1	34.0	155	100
確	VLF 3C×4		10.8	34.0	202	
確	VLF 4C×4		11.9	27.2	255	
確	VLF 5C×4		13.0	27.2	310	

Contact us for information of product availability and delivery

OIL RESISTANCE CL3 FIXED INSTALLATION

SANCABLE VLL

PVC+PVC



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for fixed installation
- Rated voltage 300V
- CL3, CM approved cable
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray

APPLICATION/BENDING RADIUS

- VLL is used in the harsh environment where coolant is being used. This type is suitable for fixed installation and wiring in a tray as well as internal / external wiring in devices and equipment.
- Specially developed for compliance with NFPA70 Class 2 (300V or less)
- Minimum bending radius:

Type	Fixed installation
VLL	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- CL3, CM approval
- Oil resistant

REMARKS

- Available on request: a custom-made cable with identifying colors for the identity of insulation

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	—	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	c(UL)	cUL
STANDARD	VDE0281	UL13	UL444	UL758	C22.2 No.214	C22.2 No.210.2
CERTIFICATE NUMBER	—	E319072	E335805	E311670	E335805	E311670
CABLE DESIGNATION	0.5～2.5mm²：H03VV5-F 4mm²：A05VV5-F	Type CL3	Type CMG	Style 21222	Type CMG	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	0.5～2.5mm²：300/300V 4mm²：300/500V	300V	300V	300V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	1500V/2 sec.	1500V/2 sec.	2000V/1 min.	1500V/2 sec.	2000V/1 min.
INSULATION RESISTANCE	100MΩ・km（at20℃）					
LIMITING TEMPERATURE	0℃～70℃	90℃	90℃	90℃	90℃	90℃
FLAME RETARDANT	EN 50265-1 (IEC 60332-1)	FT4	FT4	VW-1	FT4	FT1

VLL FIXED INSTALLATION 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
◎	VLL 2CN×0.5	1.85	5.8	9.0	42.9	100
◎	VLL 3C×0.5		6.1	9.0	51.6	
◎	VLL 4C×0.5		6.6	7.2	62.1	
◎	VLL 5C×0.5		7.2	7.2	73.3	
◎	VLL 6C×0.5		7.7	7.2	84.8	
確	VLL 7C×0.5		7.7	6.3	91.0	
◎	VLL 8C×0.5		8.3	6.3	104	
◎	VLL 10C×0.5		9.7	4.5	134	
確	VLL 12C×0.5		10.0	4.5	150	
確	VLL 16C×0.5		11.1	4.5	188	
確	VLL 18C×0.5		11.6	4.5	208	
◎	VLL 20C×0.5		12.0	4.5	226	
確	VLL 25C×0.5		13.4	4.1	277	
◎	VLL 30C×0.5		14.2	4.1	321	
◎	VLL 2CN×0.75	2.1	6.3	12.0	52.9	100
◎	VLL 3C×0.75		6.7	12.0	64.9	
◎	VLL 4C×0.75		7.2	9.6	79.3	
◎	VLL 5C×0.75		7.9	9.6	94.3	
◎	VLL 6C×0.75		8.7	9.6	115	
◎	VLL 7C×0.75		8.7	8.4	124	
確	VLL 8C×0.75		9.3	8.4	140	
確	VLL 10C×0.75		10.7	6.0	176	
確	VLL 12C×0.75		11.1	6.0	198	
確	VLL 16C×0.75		12.3	6.0	250	
確	VLL 18C×0.75		12.9	6.0	278	
確	VLL 20C×0.75		13.3	6.0	303	
確	VLL 25C×0.75		14.9	5.4	373	
◎	VLL 30C×0.75		16.4	5.4	458	Length on order
確	VLL 2CN×1.0	2.2	6.5	13.0	56.5	100
確	VLL 3C×1.0		6.9	13.0	69.8	
◎	VLL 4C×1.0		7.5	10.4	85.4	
確	VLL 5C×1.0		8.1	10.4	102	
確	VLL 6C×1.0		9.0	10.4	124	
確	VLL 7C×1.0		9.0	9.1	134	
確	VLL 8C×1.0		9.7	9.1	152	
確	VLL 10C×1.0		11.1	6.5	190	
確	VLL 12C×1.0		11.5	6.5	215	
確	VLL 16C×1.0		12.7	6.5	272	
確	VLL 18C×1.0		13.4	6.5	302	
確	VLL 20C×1.0		13.9	6.5	303	
確	VLL 25C×1.0		16.1	5.9	407	
確	VLL 30C×1.0		17.1	5.9	474	Length on order

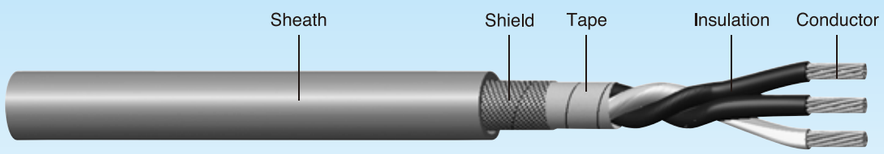
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLL 2CN×1.5	2.5	7.1	17.0	70.9	100
◎	VLL 3C×1.5		7.5	17.0	89.2	
◎	VLL 4C×1.5		8.2	13.6	111	
確	VLL 5C×1.5		9.1	13.6	138	
確	VLL 6C×1.5		9.9	13.6	161	
◎	VLL 7C×1.5		9.9	11.9	176	
◎	VLL 10C×1.5		12.3	12.5	251	
◎	VLL 12C×1.5		12.7	12.5	286	
◎	VLL 20C×1.5		16.0	12.5	468	Length on order
◎	VLL 30C×1.5		19.0	7.7	671	
確	VLL 2CN×2.5	3.1	8.3	24.0	102	100
確	VLL 3C×2.5		9.0	24.0	136	
◎	VLL 4C×2.5		9.9	19.2	169	
確	VLL 5C×2.5		10.8	19.2	204	
確	VLL 6C×2.5		11.7	19.2	240	
確	VLL 7C×2.5		11.7	16.8	264	
確	VLL 2CN×4	3.8	9.9	33.0	145	100
確	VLL 3C×4		10.5	33.0	188	
確	VLL 4C×4		11.6	26.4	236	
確	VLL 5C×4		12.7	26.4	287	
確	VLL 6C×4		13.8	26.4	339	
確	VLL 7C×4		13.8	23.1	374	

Contact us for information of product availability and delivery

OIL RESISTANCE CL3 EMC

BRAIDED SHIELD - SANCABLE VLBF,VLBL

PVC+PVC



INTRODUCTION

- PVC outer sheath, PVC insulation, braided shield, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- Rated voltage 300V
- CL3, CM approved cable
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray

CHARACTERISTICS

- CL3, CM approval
- Braided shield
- VLBF holds up to repeated flexing
- Oil resistant

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, and suitable for wiring in a tray as well as internal / external wiring in devices and equipment.
- VLBF is designed for continuous flexing cycles, and used inside cable carriers (Refer to Remarks indicated below).
- VLBL is designed for fixed installation.
- Specially developed for compliance with NFPA70 Class 2 (300V or less)
- EMC
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VLBF	10D or more	4D or more
VLBL	–	6D or more

D=Cable outer dia meter

REMARKS

- The traveling length of cable carriers must be 2m or less in the case that VLBF is used inside cable carriers.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	0.12TA/0.18TA	Numbering	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	c(UL)	cUL
STANDARD	VDE0281	UL13	UL444	UL758	C22.2 No.214	C22.2 No.210.2
CERTIFICATE NUMBER	–	E319072	E335805	E311670	E335805	E311670
CABLE DESIGNATION	H05VV5-F	Type CL3	Type CMG	Style 21222	Type CMG	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V	300V	300V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	1500V/2 sec.	1500V/2 sec.	2000V/1 min.	1500V/2 sec.	2000V/1 min.
INSULATION RESISTANCE	100MΩ・km (at20℃)					
LIMITING TEMPERATURE	0℃～70℃	90℃	90℃	90℃	90℃	90℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	FT4	VW-1	FT4	FT1

VLBF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLBF 2CN×0.5	1.9	6.5	9.0	61.7	100
確	VLBF 3C×0.5		6.9	9.0	72.1	
確	VLBF 4C×0.5		7.4	7.2	84.9	
確	VLBF 5C×0.5		7.9	7.2	98.7	
◎	VLBF 6C×0.5		8.7	7.2	118	
確	VLBF 7C×0.5		9.3	6.3	133	
確	VLBF 8C×0.5		10.0	6.3	149	
確	VLBF 10C×0.5		10.5	4.5	169	
確	VLBF 12C×0.5		10.9	4.5	187	
確	VLBF 16C×0.5		11.9	4.5	231	
確	VLBF 18C×0.5		12.5	4.5	253	
確	VLBF 20C×0.5		13.1	4.5	277	
確	VLBF 2CN×0.75	2.1	6.9	11.0	71.9	100
◎	VLBF 3C×0.75		7.3	11.0	85.6	
◎	VLBF 4C×0.75		7.9	8.8	103	
確	VLBF 5C×0.75		8.7	8.8	125	
確	VLBF 6C×0.75		9.3	8.8	143	
確	VLBF 7C×0.75		10.0	7.7	162	
確	VLBF 8C×0.75		10.7	7.7	182	
確	VLBF 10C×0.75		11.3	5.5	209	
確	VLBF 12C×0.75		11.7	5.5	233	
◎	VLBF 16C×0.75		12.9	5.5	291	
確	VLBF 18C×0.75		13.5	5.5	320	
確	VLBF 20C×0.75		14.2	5.5	356	
確	VLBF 2CN×1.0	2.3	7.3	13.0	79.3	100
確	VLBF 3C×1.0		7.7	13.0	94.8	
確	VLBF 4C×1.0		8.4	10.4	114	
確	VLBF 5C×1.0		9.2	10.4	139	
確	VLBF 6C×1.0		10.0	10.4	160	
確	VLBF 7C×1.0		10.7	9.1	181	
確	VLBF 8C×1.0		11.4	9.1	204	
確	VLBF 10C×1.0		12.1	6.5	234	
確	VLBF 12C×1.0		12.5	6.5	26	
確	VLBF 16C×1.0		13.8	6.5	327	
確	VLBF 18C×1.0		14.6	6.5	361	
確	VLBF 20C×1.0		16.2	6.5	455	Length on order

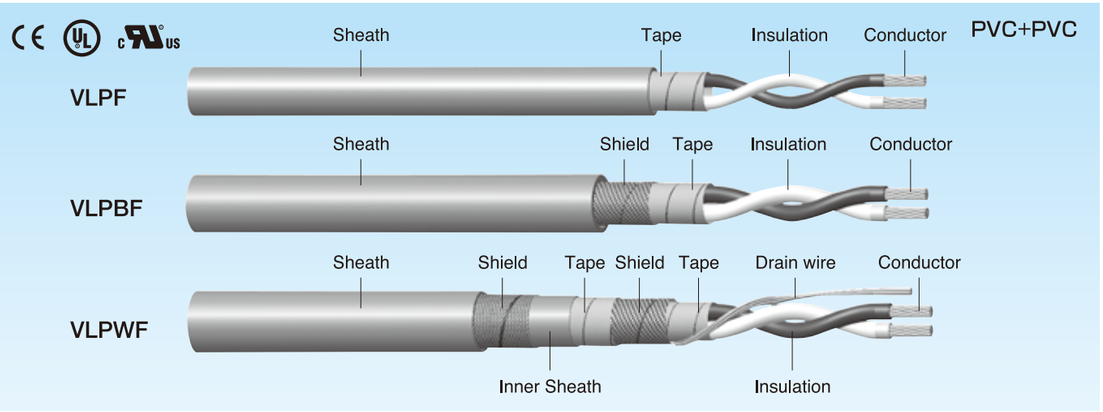
VLBL FIXED INSTALLATION 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLBL 2CN×0.5	1.85	6.4	9.0	59.8	100
確	VLBL 3C×0.5		6.7	9.0	69.5	
◎	VLBL 4C×0.5		7.2	7.2	81.8	
確	VLBL 5C×0.5		7.8	7.2	94.7	
確	VLBL 6C×0.5		8.3	7.2	109	
確	VLBL 7C×0.5		8.3	6.3	115	
確	VLBL 8C×0.5		9.1	6.3	133	
確	VLBL 10C×0.5		10.3	4.5	164	
確	VLBL 12C×0.5		10.6	4.5	181	
確	VLBL 16C×0.5		11.7	4.5	223	
確	VLBL 18C×0.5		12.2	4.5	244	
確	VLBL 20C×0.5		12.6	4.5	264	
確	VLBL 25C×0.5		14.0	4.1	320	
確	VLBL 30C×0.5		15.7	4.1	391	
確	VLBL 2CN×0.75	2.1	6.9	12.0	71.5	100
◎	VLBL 3C×0.75		7.3	12.0	84.7	
◎	VLBL 4C×0.75		7.8	9.6	102	
◎	VLBL 4CN×0.75		7.8	9.6	102	
確	VLBL 5C×0.75		8.7	9.6	123	
確	VLBL 6C×0.75		9.3	9.6	141	
確	VLBL 7C×0.75		9.3	8.4	150	
確	VLBL 8C×0.75		9.9	8.4	169	
確	VLBL 10C×0.75		11.3	6.0	209	
確	VLBL 12C×0.75		11.7	6.0	233	
確	VLBL 16C×0.75		12.9	6.0	289	
確	VLBL 18C×0.75		13.5	6.0	318	
確	VLBL 20C×0.75		13.9	6.0	345	
確	VLBL 25C×0.75		16.4	5.4	447	Length on order
確	VLBL 30C×0.75		17.3	5.4	512	
確	VLBL 2CN×1.0	2.2	7.1	13.0	75.9	100
確	VLBL 3C×1.0		7.5	13.0	90.3	
確	VLBL 4C×1.0		8.1	10.4	109	
確	VLBL 5C×1.0		8.9	10.4	131	
確	VLBL 6C×1.0		9.6	10.4	151	
確	VLBL 7C×1.0		9.6	9.1	161	
確	VLBL 8C×1.0		10.3	9.1	181	
確	VLBL 10C×1.0		11.7	6.5	225	
確	VLBL 12C×1.0		12.1	6.5	251	
確	VLBL 16C×1.0		13.3	6.5	313	
確	VLBL 18C×1.0		14.0	6.5	345	
確	VLBL 20C×1.0		14.5	6.5	374	
確	VLBL 25C×1.0		17.0	5.9	483	Length on order
確	VLBL 30C×1.0		18.0	5.9	555	
◎	VLBL 3C×1.5	2.5	8.1	17.0	113	Length on order

Contact us for information of product availability and delivery

OIL RESISTANCE CL3 FLEXING CYCLE (EMC)

TWISTED PAIR / (WITH / WITHOUT BRAIDED SHIELD) - SANCABLE VLPF,VLPBF,VLPWF



INTRODUCTION

- PVC outer sheath, PVC insulation, with or without braided shield (single braided shield / double braided shield), oil resistant cable which is designed for continuous flexing cycles
- Twisted pare conductor
- Rated voltage 300V
- CL3, CM approved cable
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray

CHARACTERISTICS

- CL3, CM approval
- Single braided shield; (Type; VLPBF)
- Double braided shield; (Type; VLPWF)
- Hold up to repeated flexing
- Oil resistant

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, in continuous flexing cycles, and inside cable carriers (Refer to Remarks (1) indicated below).
- These types are suitable for wiring in a tray as well as internal / external wiring in devices and equipment.
- Specially developed for compliance with NFPA70 Class 2 (300V or less)
- EMC; (Type;VLPBF/VLPWF)
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VLPF	10D or more	4D or more
VLPBF	10D or more	6D or more
VLPWF		

D=Cable outer dia meter

REMARKS

(1) The traveling length of cable carriers must be 2m or less in the case that these types are used inside cable carriers.
(2) VLPF is specially developed for robots / robotic equipment / machinery.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	Ref. Technical data-Ⅰ	LG	—	0.12TA/0.18TA	Color identification	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	c(UL)	cUL
STANDARD	VDE0812	UL13	UL444	UL758	C22.2 No.214	C22.2 No.210.2
CERTIFICATE NUMBER	—	E319072	E335805	E311670	E335805	E311670
CABLE DESIGNATION	VLPF：LiYY VLPBF：LiYCY VLPWF：LiYCY	Type CL3	Type CMG	Style 21222	Type CMG	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	350Vpeak	300V	300V	300V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	1500V/2 sec.	1500V/2 sec.	2000V/1 min.	1500V/2 sec.	2000V/1 min.
INSULATION RESISTANCE	200MΩ・km（at20℃）					
LIMITING TEMPERATURE	0℃～70℃	90℃	90℃	90℃	90℃	90℃
FLAME RETARDANT	EN 50265-2-1 (IEC 60332-1)	FT4	FT4	VW-1	FT4	FT1

VLPF FLEXING CYCLE WITHOUT SHIELD 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLPF 1P×0.14	1.1	4.3	3.0	23.8	100
確	VLPF 2P×0.14		5.9	2.4	41.0	
確	VLPF 3P×0.14		6.2	2.4	48.5	
確	VLPF 4P×0.14		6.7	2.1	58.0	
確	VLPF 5P×0.14		7.3	1.5	66.7	
確	VLPF 6P×0.14		7.9	1.5	76.9	
確	VLPF 7P×0.14		7.9	1.5	82.0	
確	VLPF 8P×0.14		8.6	1.5	96.9	
確	VLPF 10P×0.14		9.9	1.5	121	
確	VLPF 12P×0.14		10.2	1.4	134	
確	VLPF 16P×0.14		11.3	1.2	164	
確	VLPF 20P×0.14		12.3	1.2	195	
確	VLPF 1P×0.25	1.5	5.1	5.0	32.8	100
確	VLPF 2P×0.25		7.3	4.0	60.1	
確	VLPF 3P×0.25		7.7	4.0	72.4	
確	VLPF 4P×0.25		8.6	3.5	92.0	
確	VLPF 5P×0.25		9.4	2.5	107	
確	VLPF 6P×0.25		10.1	2.5	124	
確	VLPF 7P×0.25		10.1	2.5	133	
確	VLPF 8P×0.25		10.9	2.5	150	
確	VLPF 10P×0.25		12.7	2.5	189	
確	VLPF 12P×0.25		13.1	2.3	211	
確	VLPF 16P×0.25		14.5	2.0	259	
確	VLPF 20P×0.25		16.5	2.0	336	
◎	VLPF 1P×0.34	1.65	5.4	6.0	37.6	100
◎	VLPF 2P×0.34		7.8	4.8	70.2	
◎	VLPF 3P×0.34		8.3	4.8	85.8	
◎	VLPF 4P×0.34		9.2	4.2	110	
確	VLPF 5P×0.34		10.1	3.0	128	
◎	VLPF 6P×0.34		10.9	3.0	149	
確	VLPF 7P×0.34		10.9	3.0	160	
◎	VLPF 8P×0.34		11.8	3.0	182	
◎	VLPF 10P×0.34		13.7	3.0	229	
◎	VLPF 12P×0.34		14.1	2.7	258	
◎	VLPF 16P×0.34		16.3	2.4	342	
確	VLPF 20P×0.34		17.8	2.4	411	Length on order
◎	VLPF 1P×0.5	1.8	5.7	9.0	43.9	100
◎	VLPF 2P×0.5		8.3	7.2	87.8	
確	VLPF 3P×0.5		9.0	7.2	109	
◎	VLPF 4P×0.5		9.9	6.3	134	
確	VLPF 5P×0.5		10.8	4.5	156	
確	VLPF 6P×0.5		11.7	4.5	183	
確	VLPF 7P×0.5		11.7	4.5	198	
◎	VLPF 8P×0.5		12.6	4.5	226	
確	VLPF 10P×0.5		14.7	4.5	284	
確	VLPF 12P×0.5		15.8	4.1	346	
確	VLPF 16P×0.5		17.6	3.6	427	Length on order
確	VLPF 20P×0.5		19.2	3.6	515	

VLPBF FLEXING CYCLE WITH SHIELD 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VLPBF 1P×0.14	1.1	4.9	3.0	35.6	100
確	VLPBF 2P×0.14		6.5	2.4	58.3	
確	VLPBF 3P×0.14		6.8	2.4	66.8	
確	VLPBF 4P×0.14		7.3	2.1	78.0	
確	VLPBF 5P×0.14		7.9	1.5	88.6	
確	VLPBF 6P×0.14		8.7	1.5	106	
確	VLPBF 7P×0.14		8.7	1.5	111	
確	VLPBF 8P×0.14		9.2	1.5	124	
確	VLPBF 10P×0.14		10.5	1.5	151	
確	VLPBF 12P×0.14		10.8	1.4	166	
確	VLPBF 16P×0.14		11.9	1.2	199	
確	VLPBF 20P×0.14		12.9	1.2	234	
◎	VLPBF 1P×0.25	1.5	5.7	5.0	47.4	100
◎	VLPBF 2P×0.25		7.9	4.0	82.0	
◎	VLPBF 3P×0.25		8.3	4.0	95.7	
◎	VLPBF 4P×0.25		9.2	3.5	119	
◎	VLPBF 5P×0.25		10.0	2.5	136	
◎	VLPBF 6P×0.25		10.7	2.5	155	
確	VLPBF 7P×0.25		10.7	2.5	164	
確	VLPBF 8P×0.25		11.5	2.5	184	
確	VLPBF 10P×0.25		13.3	2.5	229	
確	VLPBF 12P×0.25		13.7	2.3	253	
確	VLPBF 16P×0.25		16.0	2.0	353	
確	VLPBF 20P×0.25		17.4	2.0	414	Length on order
◎	VLPBF 1P×0.34	1.65	6.0	6.0	53.2	100
◎	VLPBF 2P×0.34		8.6	4.8	98.2	
◎	VLPBF 3P×0.34		9.1	4.8	116	
◎	VLPBF 4P×0.34		9.8	4.2	138	
◎	VLPBF 5P×0.34		10.7	3.0	159	
◎	VLPBF 6P×0.34		11.5	3.0	183	
確	VLPBF 7P×0.34		11.5	3.0	194	
◎	VLPBF 8P×0.34		12.4	3.0	219	
◎	VLPBF 10P×0.34		14.3	3.0	274	
◎	VLPBF 12P×0.34		15.6	2.7	349	
◎	VLPBF 16P×0.34		17.2	2.4	420	Length on order
確	VLPBF 20P×0.34		18.7	2.4	495	
◎	VLPBF 1P×0.5	1.8	6.3	9.0	60.5	100
◎	VLPBF 2P×0.5		9.1	7.2	114	
◎	VLPBF 3P×0.5		9.6	7.2	136	
◎	VLPBF 4P×0.5		10.5	6.3	164	
確	VLPBF 5P×0.5		11.4	4.5	190	
確	VLPBF 6P×0.5		12.3	4.5	219	
確	VLPBF 7P×0.5		12.3	4.5	235	
◎	VLPBF 8P×0.5		13.2	4.5	285	
確	VLPBF 10P×0.5		16.2	4.5	379	
確	VLPBF 12P×0.5		16.7	4.1	421	Length on order
確	VLPBF 16P×0.5		18.5	3.6	511	
確	VLPBF 20P×0.5		20.1	3.6	608	

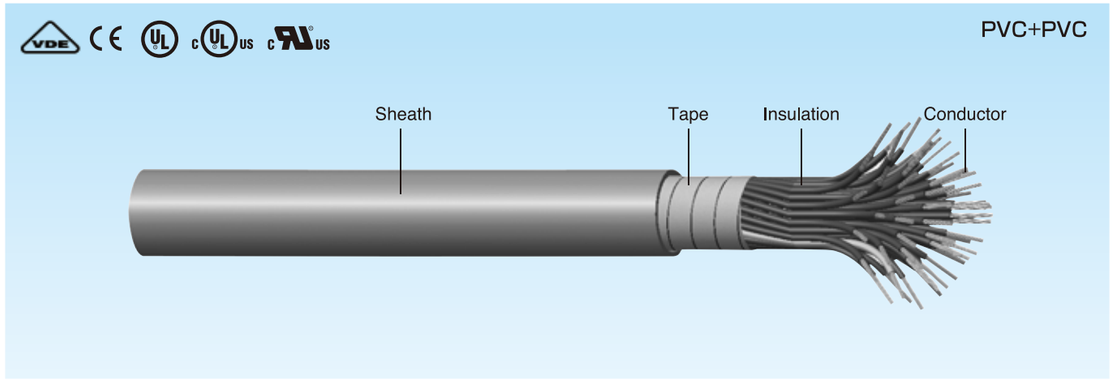
VLPWF FLEXING CYCLE WITH DOUBLE SHIELD 300V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores P	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying Capacity A	Weight kg/km	M/Coil
確	VLPWF 1P×0.5	20AWG (0.5mm2)	110/0.08A (1.0mm)	1.8	1P	7.3	36.5	8.0	99.6	100

Contact us for information of product availability and delivery

OIL RESISTANCE CL3 WITH 2.5mm² GROUND CONDUCTOR

SANCABLE VLTF,VLTL



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- Rated voltage 300V
- 2.5mm² ground conductor
- CL3, CM approved cable

- For production devices and equipment in the automotive industry
- For internal / external wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70
- For wiring in a tray

CHARACTERISTICS

- CL3, CM approval
- 2.5mm² ground conductor
- VLTF holds up to repeated flexing
- Oil resistant

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used, and suitable for wiring in a tray as well as internal / external wiring in devices and equipment.
- Specially developed for production devices / equipment in the automotive industry, and for compliance with NFPA70 Class 2 (300V or less).
- VLTF is designed for continuous flexing cycles, and used inside cable carriers. (Refer to Remarks indicated below). VLTL is designed for fixed installation.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VLTF	10D or more	4D or more
VLTL	–	6D or more

D=Cable outer dia meter

REMARKS

- The traveling length of cable carriers must be 2m or less in the case that VLTF is used inside cable carriers.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BU	LG	2.5mm² G/Y	–	Numbering	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	(UL)		UL	c(UL)	cUL
STANDARD	VDE0281	UL13	UL444	UL758	C22.2 No.214	C22.2 No.210.2
CERTIFICATE NUMBER	–	E319072	E335805	E311670	E335805	E311670
CABLE DESIGNATION	H05VV5-F	Type CL3	Type CMG	Type 21222	Type CMG	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300/500V	300V	300V	300V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	1500V/2 sec.	1500V/2 sec.	2000V/1 min.	1500V/2 sec.	2000V/1 min.
INSULATION RESISTANCE	100MΩ・km（at20℃）					
LIMITING TEMPERATURE	0℃～70℃	90℃	90℃	90℃	90℃	90℃
FLAME RETARDANT	EN 50265-1 (IEC 60332-1)	FT4	FT4	VW-1	FT4	FT1

VLTF FLEXING CYCLE WITH 2.5mm² GROUND CONDUCTOR 300V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores ※	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VLTF 2C×0.75+E	18AWG (0.75mm²) Ground conductor E 14AWG (2.5mm²)	167/0.08A (1.2mm) 7/70/0.08A (2.3mm)	2.1 3.4	2 + 1	7.6	(18AWG) 23.1 (14AWG) 8.04	11.0	101	100
◎	VLTF 3C×0.75+E				3 + 1	8.1		8.8	115	
◎	VLTF 4C×0.75+E				4 + 1	8.8		8.8	134	
◎	VLTF 7C×0.75+E				7 + 1	10.7		7.7	185	
◎	VLTF 10C×0.75+E				10 + 1	11.3		5.5	217	
◎	VLTF 12C×0.75+E				12 + 1	12.0		5.5	244	
確	VLTF 16C×0.75+E				16 + 1	13.4		5.5	300	
◎	VLTF 20C×0.75+E				20 + 1	14.7		5.0	357	
◎	VLTF 24C×0.75+E				24 + 1	16.1		5.0	431	Length on order
確	VLTF 30C×0.75+E				30 + 1	17.3		4.4	502	
確	VLTF 32C×0.75+E				32 + 1	17.6		4.4	526	
確	VLTF 40C×0.75+E				40 + 1	19.5		3.9	635	
確	VLTF 42C×0.75+E				42 + 1	20.1		3.9	665	
確	VLTF 50C×0.75+E				50 + 1	22.2		3.9	803	

・Number of cores column in the above chart shows the number of 0.75mm² conductor(s) and 2.5mm² ground conductor(s)
e.g.) 2 + 1 shows 0.75mm² conductors x 2, and 2.5mm² ground conductor x 1 make up 3 conductors.

VLTL FIXED INSTALLATION WITH 2.5mm² GROUND CONDUCTOR 300V

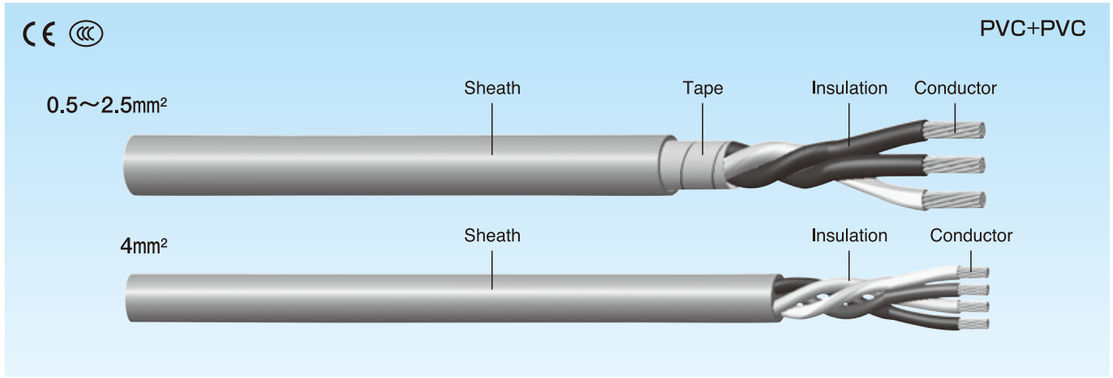
Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores ※	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
◎	VLTL 2C×0.75+E	18AWG (0.75mm²) Ground conductor E 14AWG (2.5mm²)	33/0.18A (1.2mm) 93/0.18A (2.0mm)	2.1 3.1	2 + 1	7.4	(18AWG) 22.7 (14AWG) 8.04	12.0	94.6	100
確	VLTL 3C×0.75+E				3 + 1	7.9		9.6	109	
◎	VLTL 4C×0.75+E				4 + 1	8.6		9.6	128	
◎	VLTL 7C×0.75+E				7 + 1	9.8		8.4	169	
◎	VLTL 8C×0.75+E				8 + 1	10.5		8.4	187	
◎	VLTL 10C×0.75+E				10 + 1	11.2		6.0	210	
◎	VLTL 12C×0.75+E				12 + 1	11.8		6.0	235	
◎	VLTL 16C×0.75+E				16 + 1	13.1		6.0	290	
◎	VLTL 20C×0.75+E				20 + 1	13.9		5.4	339	
◎	VLTL 24C×0.75+E				24 + 1	16.0		5.4	421	
◎	VLTL 30C×0.75+E				30 + 1	17.0		4.8	488	Length on order
確	VLTL 32C×0.75+E				32 + 1	17.4		4.8	514	
確	VLTL 40C×0.75+E				40 + 1	19.2		4.2	619	
◎	VLTL 42C×0.75+E				42 + 1	19.7		4.2	647	
確	VLTL 50C×0.75+E				50 + 1	21.0		4.2	747	
確	VLTL 72C×0.75+E				72 + 1	25.3		4.2	1070	

・Number of cores column in the above chart shows the number of 0.75mm² conductor(s) and 2.5mm² ground conductor(s)
e.g.) 2 + 1 shows 0.75mm² conductors x 2, and 2.5mm² ground conductor x 1 make up 3 conductors.

Contact us for information of product availability and delivery

OIL RESISTANCE CCC

SANCABLE VZF,VZL



INTRODUCTION

- PVC outer sheath, PVC insulation, oil resistant cable which is designed for continuous flexing cycles / fixed installation
- Applied for CCC (China Compulsory Certification)
- Contact us should a braided shield type be required

APPLICATION/BENDING RADIUS

- These types are used in the harsh environment where coolant is being used.
- VZF is designed for continuous flexing cycles, and used inside cable carriers (Refer to Remarks indicated below).
- VZL is designed for fixed installation.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VZF	10D or more	4D or more
VZL	–	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- Applied for CCC (China Compulsory Certification)
- VZF holds up to repeated flexing
- Oil resistant

REMARKS

- The traveling length of cable carriers must be 2m or less in the case that VZF is used inside cable carriers.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	0.5～2.5mm²：BK 4mm²・Deferent color according to catalog no.	LG	G/Y	–	0.5～2.5mm²：Numbering 4mm²：Color identification	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	CE	CCC
STANDARD	HD21	GB5023
CERTIFICATE NUMBER	–	A069711
CABLE DESIGNATION	0.5～2.5mm²：H05VV5-F 4mm²：A05VV5-F	0.5～2.5mm²：227 IEC75（RVVY） 4mm²：227 IEC71c（TVV）
RATED VOLTAGE	300/500V	300/500V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2000V/5 min.
INSULATION RESISTANCE	100MΩ・km（at20℃）	
LIMITING TEMPERATURE	0℃～70℃	0℃～70℃
FLAME RETARDANT	EN 50265-1（IEC 60332-1）	IEC 60332-1

VZF FLEXING CYCLE 300/500V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VZF 2CN×0.5	2.2	6.1	9.0	42.8	100
確	VZF 3C×0.5		6.6	9.0	54.9	
確	VZF 4C×0.5		7.3	7.2	68.9	
確	VZF 5C×0.5		8.1	7.2	84.0	
確	VZF 6C×0.5		8.8	7.2	99.9	
確	VZF 7C×0.5		9.7	6.3	117	
確	VZF 8C×0.5		10.7	6.3	140	
確	VZF 10C×0.5		11.2	4.5	159	
確	VZF 12C×0.5		11.7	4.5	182	
確	VZF 2CN×0.75	2.4	6.6	12.0	53.0	100
確	VZF 3C×0.75		7.1	12.0	68.6	
確	VZF 4C×0.75		7.9	9.6	86.4	
確	VZF 5C×0.75		8.7	9.6	106	
確	VZF 6C×0.75		9.6	9.6	126	
確	VZF 7C×0.75		10.4	8.4	147	
確	VZF 8C×0.75		11.4	8.4	171	
確	VZF 10C×0.75		12.2	6.0	203	
確	VZF 12C×0.75		12.7	6.0	233	
確	VZF 2CN×1.0	2.6	7.0	14.0	58.8	100
確	VZF 3C×1.0		7.6	14.0	76.3	
確	VZF 4C×1.0		8.4	11.2	96.3	
確	VZF 5C×1.0		9.3	11.2	118	
確	VZF 6C×1.0		10.3	11.2	143	
確	VZF 7C×1.0		11.2	9.8	167	
確	VZF 8C×1.0		12.1	9.8	192	
確	VZF 10C×1.0		13.1	7.0	230	
確	VZF 12C×1.0		13.6	7.0	260	
確	VZF 2CN×1.5	3.0	8.0	18.0	80.4	100
確	VZF 3C×1.5		8.6	18.0	106	
確	VZF 4C×1.5		9.6	14.4	133	
確	VZF 5C×1.5		10.7	14.4	166	
確	VZF 6C×1.5		11.7	14.4	197	
確	VZF 7C×1.5		12.8	12.6	232	
確	VZF 8C×1.5		13.9	12.6	266	
確	VZF 10C×1.5		15.0	9.0	319	
確	VZF 12C×1.5		15.6	9.0	367	
確	VZF 2CN×2.5	4.0	10.2	27.0	127	100
確	VZF 3C×2.5		11.0	27.0	167	
確	VZF 4C×2.5		12.3	21.0	215	
確	VZF 5C×2.5		13.7	21.6	266	
確	VZF 6C×2.5		15.0	21.6	316	
確	VZF 7C×2.5		16.5	18.9	373	
確	VZF 8C×2.5		18.0	18.9	432	Length on order
確	VZF 10C×2.5		19.4	13.5	516	
確	VZF 12C×2.5		20.2	13.5	594	

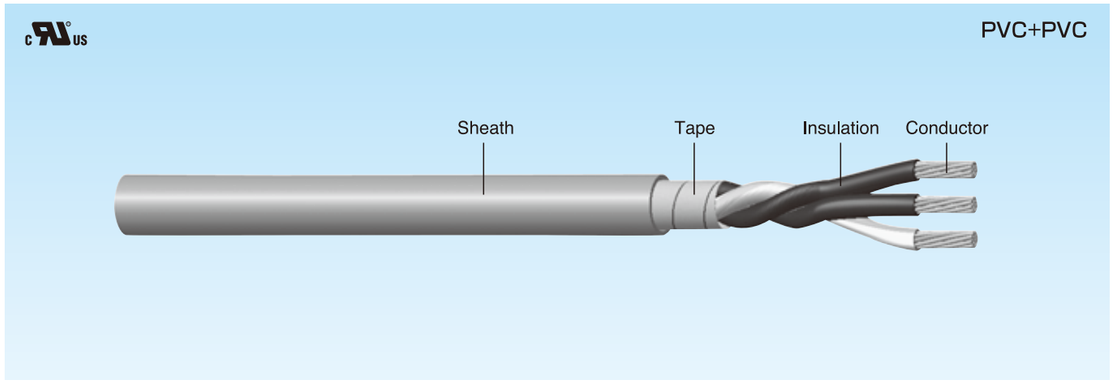
VZL FIXED INSTALLATION 300/500V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VZL 2CN×0.5	2.15	6.0	9.0	41.3	100
確	VZL 3C×0.5		6.5	9.0	52.7	
確	VZL 4C×0.5		7.2	7.2	66.2	
確	VZL 5C×0.5		7.9	7.2	80.8	
確	VZL 6C×0.5		8.6	7.2	95.5	
確	VZL 7C×0.5		9.4	6.3	112	
確	VZL 8C×0.5		10.2	6.3	129	
確	VZL 10C×0.5		11.0	4.5	152	
確	VZL 12C×0.5		11.5	4.5	174	
確	VZL 2CN×0.75	2.4	6.6	12.0	52.5	100
確	VZL 3C×0.75		7.1	12.0	67.7	
確	VZL 4C×0.75		7.9	9.6	85.3	
確	VZL 5C×0.75		8.7	9.6	105	
確	VZL 6C×0.75		9.5	9.6	124	
確	VZL 7C×0.75		10.3	8.4	144	
確	VZL 8C×0.75		11.3	8.4	168	
確	VZL 10C×0.75		12.2	6.0	200	
確	VZL 12C×0.75		12.7	6.0	230	
確	VZL 2CN×1.0	2.5	6.8	14.0	56.0	100
確	VZL 3C×1.0		7.3	14.0	72.5	
確	VZL 4C×1.0		8.1	11.2	91.5	
確	VZL 5C×1.0		9.0	11.2	113	
確	VZL 6C×1.0		9.9	11.2	136	
確	VZL 7C×1.0		10.8	9.8	158	
確	VZL 8C×1.0		11.7	9.8	181	
確	VZL 10C×1.0		12.7	7.0	218	
確	VZL 12C×1.0		13.1	7.0	247	
確	VZL 2CN×1.5	3.0	8.0	18.0	78.7	100
確	VZL 3C×1.5		8.6	18.0	103	
確	VZL 4C×1.5		9.5	14.4	130	
確	VZL 5C×1.5		10.7	14.4	161	
確	VZL 6C×1.5		11.6	14.4	191	
確	VZL 7C×1.5		12.7	12.6	225	
確	VZL 8C×1.5		13.8	12.6	258	
確	VZL 10C×1.5		15.0	9.0	311	
確	VZL 12C×1.5		15.6	9.0	357	
確	VZL 2CN×2.5	3.6	9.4	26.0	115	100
確	VZL 3C×2.5		10.1	26.0	150	
確	VZL 4C×2.5		11.3	20.8	193	
確	VZL 5C×2.5		12.6	20.8	240	
確	VZL 6C×2.5		13.7	20.8	284	
確	VZL 7C×2.5		15.0	18.2	333	
確	VZL 8C×2.5		16.4	18.2	386	
確	VZL 10C×2.5		17.8	13.0	465	Length on order
確	VZL 12C×2.5		18.5	13.0	535	
確	VZL 2CN×4	4.2	10.7	36.0	110	100
確	VZL 3C×4		12.0	36.0	158	
確	VZL 4C×4		13.1	28.8	204	

Contact us for information of product availability and delivery

WIDELY USED FLEXING CYCLE

SANCABLE VNF



INTRODUCTION

- PVC outer sheath, PVC insulation cable which is designed for continuous flexing cycles
- Rated voltage 300V/600V

APPLICATION/BENDING RADIUS

- VNF is used in continuous flexing cycles, and Inside cable carriers. This type is suitable for internal / external wiring in devices and equipment. (Refer to Remarks indicated below)
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VNF	10D or more	4D or more

D=Cable outer dia meter

CHARACTERISTICS

- Hold up to repeated flexing
- cULus approval

REMARKS

- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	–	Numbering (0.34mm²: color identification)	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	UL	cUL
STANDARD	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	E311670	E311670
CABLE DESIGNATION	0.34～1.0mm²：style 2464 1.5～4mm²：style 21025	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300V：0.34～1.0mm² 600V：1.5～4mm²	300V：0.34～1.0mm² 600V：1.5～4mm²
DIELECTRIC VOLTAGE-WITHSTAND	2000V/1 min.	
INSULATION RESISTANCE	20MΩ・km（at20℃）	
LIMITING TEMPERATURE	80℃	80℃
FLAME RETARDANT	VW-1	FT1

VNF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VNF 2CN×0.34	1.75	5.6	6.0	36.4	100
確	VNF 3C×0.34		5.9	6.0	43.6	
確	VNF 4C×0.34		6.4	4.8	52.1	
確	VNF 7C×0.34		8.0	4.2	80.2	
確	VNF 10C×0.34		9.3	3.0	110	
確	VNF 12C×0.34		9.6	3.0	123	
確	VNF 2CN×0.5	1.9	5.9	8.0	42.5	100
確	VNF 3C×0.5		6.3	8.0	51.8	
確	VNF 4C×0.5		6.8	6.4	62.7	
確	VNF 7C×0.5		8.7	5.6	103	
確	VNF 10C×0.5		9.9	4.0	134	
確	VNF 12C×0.5		10.3	4.0	152	
確	VNF 2CN×0.75	2.1	6.3	11.0	51.1	100
確	VNF 3C×0.75		6.7	11.0	63.7	
確	VNF 4C×0.75		7.3	8.8	78.0	
確	VNF 7C×0.75		9.4	7.7	129	
確	VNF 10C×0.75		10.7	5.5	171	
確	VNF 12C×0.75		11.1	5.5	194	
確	VNF 2CN×1.0	2.3	6.7	12.0	56.9	100
確	VNF 3C×1.0		7.1	12.0	71.1	
確	VNF 4C×1.0		7.8	9.6	87.3	
確	VNF 7C×1.0		10.1	8.4	145	
確	VNF 10C×1.0		11.5	6.0	192	
確	VNF 12C×1.0		11.9	6.0	219	

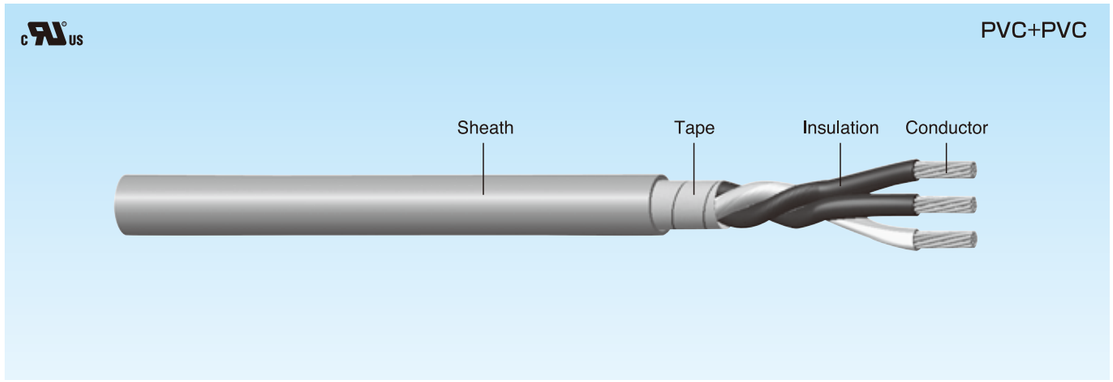
VNF FLEXING CYCLE 600V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VNF 2CN×1.5	3.4	9.3	18.0	102	100
確	VNF 3C×1.5		9.9	18.0	128	
確	VNF 4C×1.5		10.8	14.4	158	
確	VNF 7C×1.5		14.0	12.6	255	
確	VNF 10C×1.5		16.5	9.0	355	
確	VNF 12C×1.5		17.1	9.0	404	
確	VNF 2CN×2.5	4.0	10.5	25.0	136	100
確	VNF 3C×2.5		11.2	25.0	174	
確	VNF 4C×2.5		12.3	20.0	217	
確	VNF 7C×2.5		16.4	17.5	373	
確	VNF 10C×2.5		18.9	12.5	499	Length on order
確	VNF 12C×2.5		19.6	12.5	572	
確	VNF 2CN×4	4.5	11.5	34.0	175	100
確	VNF 3C×4		12.3	34.0	229	
確	VNF 4C×4		13.5	27.2	288	

Contact us for information of product availability and delivery

WIDELY USED FIXED INSTALLATION

SANCABLE VNL



INTRODUCTION

- PVC outer sheath, PVC insulation cable which is designed for fixed installation
- Rated voltage 300V/600V

APPLICATION/BENDING RADIUS

- VNL is designed for fixed installation. This type is suitable for internal / external wiring in devices and equipment.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VNL	–	6D or more

D=Cable outer dia meter

CHARACTERISTICS

- c UL us approval

REMARKS

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	BK	LG	G/Y	–	Numbering (0.34mm²: color identification)	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	UL	cUL
STANDARD	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	E311670	E311670
CABLE DESIGNATION	0.34～1.0mm²：style 2464 1.5～35mm²：style 21025	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300V：0.34～1.0mm² 600V：1.5～35mm²	300V：0.34～1.0mm² 600V：1.5～35mm²
DIELECTRIC VOLTAGE-WITHSTAND	2000V/1 min.	
INSULATION RESISTANCE	20MΩ・km（at20℃）	
LIMITING TEMPERATURE	80℃	80℃
FLAME RETARDANT	VW-1	FT1

VNL FIXED INSTALLATION 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VNL 2CN×0.34	1.75	5.6	6.0	36.0	100
確	VNL 3C×0.34		5.9	6.0	42.8	
確	VNL 4C×0.34		6.4	4.8	51.1	
確	VNL 5C×0.34		6.9	4.8	59.7	
確	VNL 7C×0.34		7.4	4.2	73.5	
確	VNL 10C×0.34		9.3	3.0	108	
確	VNL 12C×0.34		9.6	3.0	120	
確	VNL 16C×0.34		10.6	3.0	149	
確	VNL 18C×0.34		11.1	3.0	164	
確	VNL 20C×0.34		11.5	3.0	178	
確	VNL 2CN×0.5	1.85	5.8	8.0	41.0	100
確	VNL 3C×0.5		6.1	8.0	49.8	
確	VNL 4C×0.5		6.6	6.4	60.2	
確	VNL 5C×0.5		7.2	6.4	71.0	
確	VNL 7C×0.5		7.7	5.6	88.7	
確	VNL 10C×0.5		9.7	4.0	129	
確	VNL 12C×0.5		10.0	4.0	145	
確	VNL 16C×0.5		11.1	4.0	182	
確	VNL 18C×0.5		11.6	4.0	201	
確	VNL 20C×0.5		12.0	4.0	219	
確	VNL 2CN×0.75	2.1	6.3	10.0	52.9	100
確	VNL 3C×0.75		6.7	10.0	64.9	
確	VNL 4C×0.75		7.2	8.0	79.3	
確	VNL 5C×0.75		7.9	8.0	94.3	
確	VNL 7C×0.75		8.7	7.0	124	
確	VNL 10C×0.75		10.7	5.0	176	
確	VNL 12C×0.75		11.1	5.0	198	
確	VNL 16C×0.75		12.3	5.0	250	
確	VNL 18C×0.75		12.9	5.0	278	
確	VNL 20C×0.75		13.3	5.0	303	
確	VNL 2CN×1.0	2.2	6.5	11.0	56.5	100
確	VNL 3C×1.0		6.9	11.0	69.8	
確	VNL 4C×1.0		7.5	8.8	85.4	
確	VNL 5C×1.0		8.1	8.8	102	
確	VNL 7C×1.0		9.0	7.7	134	
確	VNL 10C×1.0		11.1	5.5	188	
確	VNL 12C×1.0		11.5	5.5	213	
確	VNL 16C×1.0		12.7	5.5	270	
確	VNL 18C×1.0		13.4	5.5	299	
確	VNL 20C×1.0		13.9	5.5	327	

VNL FIXED INSTALLATION 600V

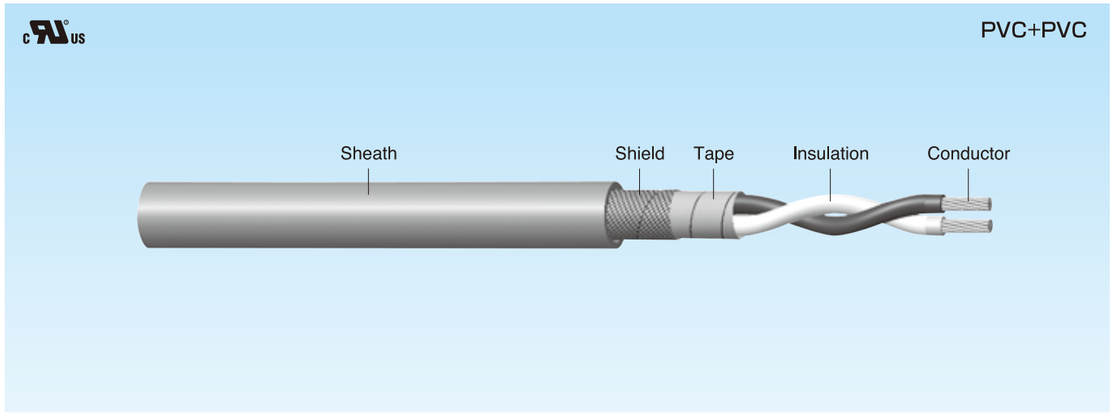
Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VNL 2CN×1.5	3.3	9.1	18.0	97.4	100
確	VNL 3C×1.5		9.7	18.0	122	
確	VNL 4C×1.5		10.6	14.4	150	
確	VNL 5C×1.5		11.5	14.4	180	
確	VNL 7C×1.5		12.5	12.6	229	
確	VNL 10C×1.5		16.1	9.0	339	
確	VNL 12C×1.5		16.7	9.0	385	
確	VNL 2CN×2.5	3.7	9.9	24.0	125	100
確	VNL 3C×2.5		10.5	24.0	159	
確	VNL 4C×2.5		11.5	19.2	198	
確	VNL 5C×2.5		12.6	19.2	239	
確	VNL 7C×2.5		13.7	16.8	309	
確	VNL 10C×2.5		17.7	12.0	456	Length on order
確	VNL 12C×2.5		18.3	12.0	522	
確	VNL 2CN×4	4.4	11.3	32.0	165	100
確	VNL 3C×4		12.0	32.0	214	
確	VNL 4C×4		13.2	25.6	269	
確	VNL 2CN×6	5.1	12.7	44.0	223	100
確	VNL 3C×6		13.6	44.0	294	
確	VNL 4C×6		14.9	35.2	374	
確	VNL 2CN×10	7.0	16.9	66.0	379	100
確	VNL 3C×10		18.1	66.0	502	Length on order
確	VNL 4C×10		19.9	52.8	650	
確	VNL 2CN×16	8.9	21.3	92.0	579	Length on order
確	VNL 3C×16		22.8	92.0	794	
確	VNL 4C×16		25.6	73.6	1029	
確	VNL 2CN×25	10.4	24.7	126.0	844	Length on order
確	VNL 3C×25		26.4	126.0	1135	
確	VNL 4C×25		30.2	100.8	1526	
確	VNL 2CN×35	11.7	27.3	158.0	1104	Length on order
確	VNL 3C×35		30.2	158.0	1574	
確	VNL 4C×35		33.4	126.4	2017	

Should another No. of cores be required, contact us for information.

Contact us for information of product availability and delivery

WIDELY USED EMC

TWISTED PAIR / BRAIDED SHIELD - SANCABLE VNPBF



INTRODUCTION

- PVC outer sheath, PVC insulation, braided shield cable which is designed for continuous flexing cycles / fixed installation
- Rated voltage 300V/600V

APPLICATION/BENDING RADIUS

- VNPBF is used in continuous flexing cycles, and Inside cable carriers. This type is suitable for internal / external wiring in devices and equipment. (Refer to Remarks indicated below)
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VNPBF	10D or more	4D or more

D=Cable outer dia meter

CHARACTERISTICS

- Hold up to repeated flexing
- Braided shield
- c UL us approval

REMARKS

- The traveling length of cable carriers must be 2m or less when this type is used inside cable carriers,

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	BRAIDED SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	Ref. Technical data-Ⅰ	LG	—	0.12TA/0.18TA	Color identification	Ref. Technical data-Ⅰ	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	UL	cUL
STANDARD	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	E311670	E311670
CABLE DESIGNATION	style 2464	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2000V/1 min.	
INSULATION RESISTANCE	20MΩ・km（at20℃）	
LIMITING TEMPERATURE	80℃	80℃
FLAME RETARDANT	VW-1	FT1

VNPBF FLEXING CYCLE 300V

Delivery	Catalog no.	Outer dia.mm Insulation dia.	Outer dia.mm Approx.overall dia. mm	Current carrying capacity A	Weight kg/km	M/Coil
確	VNPBF 1P×0.25	1.6	5.9	4.0	48.9	100
確	VNPBF 2P×0.25		8.2	3.2	84.9	
確	VNPBF 3P×0.25		8.9		103	
確	VNPBF 4P×0.25		9.6	2.8	122	
確	VNPBF 5P×0.25		10.4	2.0	138	
確	VNPBF 6P×0.25		11.3	2.0	158	
確	VNPBF 8P×0.25		12.1	2.0	187	
確	VNPBF 10P×0.25		13.9	2.0	232	
確	VNPBF 12P×0.25		14.4	1.8	255	
確	VNPBF 1P×0.34	1.75	6.2	6.0	54.7	100
確	VNPBF 2P×0.34		9.0	4.8	102	
確	VNPBF 3P×0.34		9.4	4.8	119	
確	VNPBF 4P×0.34		10.3	4.2	141	
確	VNPBF 5P×0.34		11.1	3.0	161	
確	VNPBF 6P×0.34		12.0	3.0	185	
確	VNPBF 8P×0.34		13.0	3.0	221	
確	VNPBF 10P×0.34		15.3	3.0	299	
確	VNPBF 12P×0.34		16.4	2.7	354	
確	VNPBF 1P×0.5	1.9	6.5	8.0	62.0	100
確	VNPBF 2P×0.5		9.5	6.4	117	
確	VNPBF 3P×0.5		10.0	6.4	139	
確	VNPBF 4P×0.5		10.9	5.6	167	
確	VNPBF 5P×0.5		11.8	4.0	192	
確	VNPBF 6P×0.5		12.8	4.0	222	
確	VNPBF 8P×0.5		13.8	4.0	268	
確	VNPBF 10P×0.5		16.9	4.0	385	
確	VNPBF 12P×0.5		17.4	3.6	425	Length on order

Contact us for information of product availability and delivery

PSE ELECTRICAL APPLIANCE AND MATERIAL SAFETY LAW

POLYVINYL CHLORIDE INSULATED FLEXIBLE CORDS/POLYVINYL CHLORIDE INSULATED AND SHEATHED PORTABLE POWER CABLES VCTF,VCT

PVC+PVC

INTRODUCTION

- PVC outer sheath, PVC insulation, cable
- VCTF is classified as a cable which holds up to repeated flexing according to JIS C 3306 Polyvinyl chloride insulated flexible cords
- VCT is classified as a cable which holds up to repeated flexing according to JIS C 3312 600 V grade polyvinyl chloride insulated and sheathed portable power cables

APPLICATION/BENDING RADIUS

- Rated voltage
  VCTF: 300V
  VCT : 600V
- These types are suitable for internal / external wiring in devices and equipment, and designed for sporadic flexing cycles.
- Minimum bending radius:

Type	Flexing cycle	Fixed installation
VCTF	10D or more	6D or more
VCT	15D or more	8D or more

D=Cable outer dia meter

CHARACTERISTICS

- Electrical Appliance and Material Safety Law approval
- Suitable for equipment (eg. Electricity powered tools) which requires flexibility and prevention of curling up in characteristics of a cable.
- $_{c}$UL$_{us}$ approval(Type; VCTF)

REMARKS

- DESCRIPTION OF CATALOG NUMBER (on another page) is NOT applicable for VCTF or VCT.

CONSTRUCTION

MATERIAL		COLOR		COLOR OF THE GROUND	SHIELD	INSULATION IDENTIFICATION	CONDUCTOR DATA	RoHS
INSULATION	SHEATH	INSULATION	SHEATH					
PVC	PVC	Deferent color according to catalog no.	BK	GN	–	Color identification (BK,WH,RD)	Ref. Next page	Conformity

APPROVAL / CHARACTERISTICS

SUBJECT	PSE		注1)UL	注1)cUL
STANDARD	Electrical Appliance and Material Safety Law		UL758	C22.2 No.210.2
CERTIFICATE NUMBER	JET5805-12009	JET5805-12012	E311670	E311670
CABLE DESIGNATION	POLYVINYL CHLORIDE INSULATED FLEXIBLE CORDS VCTF	POLYVINYL CHLORIDE INSULATED AND SHEATHED PORTABLE POWER CABLES VCT	Style 21026	Class Ⅰ/Ⅱ A/B
RATED VOLTAGE	300V	600V	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2000V/1min.	2000V/1min.	2000V/1min.	2000V/1min.
INSULATION RESISTANCE	5MΩ・km or more (at20℃)	60MΩ・km or more (at20℃)	5MΩ・km or more (at20℃)	5MΩ・km or more (at20℃)
LIMITING TEMPERATURE	60℃	60℃	60℃	60℃
FLAME RETARDANT	60° angle	60° angle	VW-1	FT1

The data of 注1 is only for VCTF

VCTF POLYVINYL CHLORIDE INSULATED FLEXIBLE CORDS 300V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VCTF 2C×0.75	0.75mm²	30/0.18A (1.1mm)	2.3	2	7.2	26.9	8.0	70	200
確	VCTF 3C×0.75				3	7.6		8.0	85	
確	VCTF 4C×0.75				4	8.2		6.4	100	
確	VCTF 2C×1.25	1.25mm²	50/0.18A (1.5mm)	2.7	2	8.0	17.0	12.0	90	200
確	VCTF 3C×1.25				3	8.4		12.0	110	
◎	VCTF 4C×1.25				4	9.1		9.6	130	
◎	VCTF 6C×1.25				6	10.9		9.6	165	Length on order
確	VCTF 2C×2.0	2.0mm²	37/0.26A (1.8mm)	3.0	2	8.6	10.8	12.0	120	200
確	VCTF 3C×2.0				3	9.1		12.0	140	
◎	VCTF 4C×2.0				4	9.9		9.6	170	

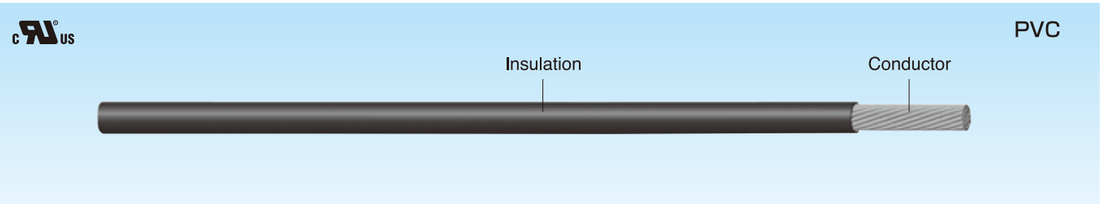
VCT POLYVINYL CHLORIDE INSULATED AND SHEATHED PORTABLE POWER CABLES 600V

Deli-very	Catalog no.	Nominal cross sectional area	Conductor composition (dia.)	Insulation dia. mm	No. of cores	Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
確	VCT 2C×0.75	0.75mm²	30/0.18A (1.1mm)	2.8	2	8.9	26.8	9.0	100	200
確	VCT 3C×0.75				3	9.3		9.0	120	
確	VCT 4C×0.75				4	10.1		7.2	140	
確	VCT 2C×1.25	1.25mm²	50/0.18A (1.5mm)	3.05	2	9.4	16.9	13.0	120	200
確	VCT 3C×1.25				3	10.0		13.0	140	
◎	VCT 4C×1.25				4	11.0		10.4	170	
確	VCT 2C×2.0	2.0mm²	37/0.26A (1.8mm)	3.35	2	10.2	10.8	13.0	150	200
確	VCT 3C×2.0				3	10.7		13.0	180	
確	VCT 4C×2.0				4	11.7		10.4	210	100
確	VCT 2C×3.5	3.5mm²	45/0.32A (2.5mm)	4.05	2	11.7	5.6	25.0	210	100
確	VCT 3C×3.5				3	12.5		25.0	260	
確	VCT 4C×3.5				4	13.8		20.0	320	

Contact us for information of product availability and delivery

WIDELY USED OIL RESISTANCE 300V FIXED INSTALLATION

INSULATED WIRE WOL



INTRODUCTION

・Oil resistant, heat resistant, flame retardant, PVC insulated wire.

APPLICATION/BENDING RADIUS

・This type is suitable for internal wiring in devices / equipment, and inside flexible conduits.
・Minimum bending radius: 6D or more
D=Cable outer dia meter

CHARACTERISTICS

・ approval

REMARKS

・Refer to Certificate standard and Characteristics of this type (on another page) for more information

CONSTRUCTION

MATERIAL	COLOR	SHIELD	CONDUCTOR DATA	RoHS
INSULATION	INSULATION			
PVC	Different color according to catalog no.	–	Ref. chart below	Conformity

Nominal Cross sectional area & Delivery

Nominal cross sectional area		G/Y	BK	BU	RD	W/B	WH	OG	YE
mm²	AWG	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery
0.75	18	確	確	確	確	–	–	–	–
1.0	18	確	確	確	確	確	確	確	確
1.5	16	確	確	確	確	確	確	確	◎

Catalog no.	Nominal cross sectional area		Conductor		Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
	mm²	AWG	Composition	Dia. mm					
WOL 0.75※※	0.75mm²	18	33/0.18A	1.1	1.94	22.2	11.0	10.4	300
WOL 1.0※※	1.0mm²	18	37/0.18A	1.2	2.04	19.8	12.0	16.6	
WOL 1.5※※	1.5mm²	16	56/0.18A	1.6	2.44	13.1	16.0	40.6	

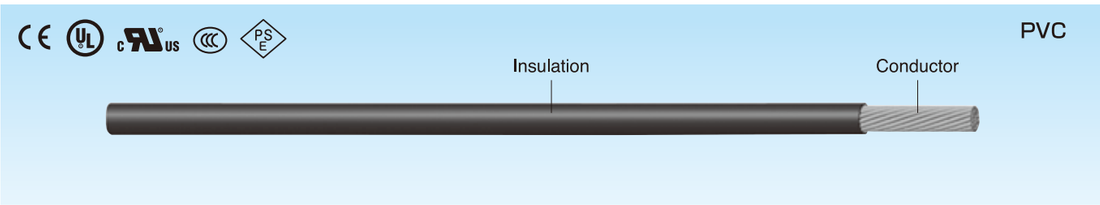
CATALOG NO. TO PLACE PURCHASE ORDER

・Description of catalog number; Type (WOL) + Nominal Cross sectional area mm²(0.75) + Color identification (e.g.; BU, G/Y)
e.g.) WOL 0.75 BU

Contact us for information of product availability and delivery

MTW 600V FIXED INSTALLATION

MTW INSULATED WIRE WML



INTRODUCTION

・Oil resistant, heat resistant, flame retardant, PVC insulated wire
・MTW approved insulated wire
・For internal wiring in electrical devices and equipment in order to comply with NFPA79 / NFPA70

APPLICATION/BENDING RADIUS

・This type is suitable for internal wiring in devices / equipment, and inside rigid metal conduits / KEIFLEX (KUU).
・Minimum bending radius: 6D or more
D=Cable outer dia meter

CHARACTERISTICS

・MTW approval
・Applied for CCC (China Compulsory Certification)
・PSE approval

REMARKS

・Refer to Certificate standard and Characteristics of this type (on another page) for more information

CONSTRUCTION

MATERIAL	COLOR	SHIELD	CONDUCTOR DATA	RoHS
INSULATION	INSULATION			
PVC	Different color according to catalog no.	–	Ref. chart below	Conformity

Nominal Cross sectional area & Delivery

Nominal cross sectional area		G/Y	BK	BU	RD	W/B	WH	OG	YE
mm²	AWG	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery	Delivery
0.5	20	◎	◎	◎	◎	◎	確	◎	–
0.75	18	◎	◎	◎	◎	◎	–	◎	–
1.0	18	◎	◎	◎	◎	◎	確	◎	確
1.5	16	◎	◎	◎	◎	確	確	◎	確
2.5	14	◎	◎	◎	◎	確	◎	◎	–
4	12	◎	◎	◎	◎	確	–	◎	–
6	10	◎	◎	確	確	–	–	–	–
10	8	◎	◎	–	–	–	–	–	–
16	6	確	確	–	–	–	–	–	–
25	4	確	確	–	–	–	–	–	–
35	2	確	確	–	–	–	–	–	–

Catalog no.	Nominal cross sectional area		Conductor		Approx. overall dia. mm	Conductor resistance Ω/km	Current carrying capacity A	Weight kg/km	M/Coil
	mm²	AWG	Composition	Dia. mm					
WML 0.5※※	0.5mm²	20	21/0.18A	0.95	2.5	34.9	11.0	10.7	300
WML 0.75※※	0.75mm²	18	33/0.18A	1.1	2.7	22.2	14.0	14.4	
WML 1.0※※	1.0mm²	18	37/0.18A	1.2	2.8	19.8	16.0	16.1	
WML 1.5※※	1.5mm²	16	56/0.18A	1.6	3.2	13.1	21.0	21.5	
WML 2.5※※	2.5mm²	14	93/0.18A	2.0	3.6	7.89	28.0	31.4	
WML 4※※	4mm²	12	7/20/0.18A	2.6	4.4	5.34	38.0	45.3	
WML 6※※	6mm²	10	7/32/0.18A	3.3	5.3	3.34	52.0	67.5	
WML 10※※	10mm²	8	7/53/0.18A	4.2	6.8	2.02	78.0	118	
WML 16※※	16mm²	6	7/40/0.26A	5.3	8.5	1.28	108.0	188	100
WML 25※※	25mm²	4	19/49/0.18A	6.7	9.9	0.804	148.0	280	
WML 35※※	35mm²	2	19/34/0.26A	8.0	11.4	0.555	187.0	387	

CATALOG NO. TO PLACE PURCHASE ORDER

・Description of catalog number; Type (WML) + Nominal Cross sectional area mm² (0.75) + Color identification (e.g.; RD, G/Y)
e.g.) WML 0.75 RD

Contact us for information of product availability and delivery

TECHNICAL DATA - I

CONDUCTOR DATA, INSULATION DIA.

CONDUCTOR - USED FOR FLEXING CYCLE

Nominal cross sectional area		Composition		Conductor resistance (Ω/km)		
mm²	AWG	Composition (Qty/mm)	Dia. (mm)	Single conductor	Twisted pair	Multi-conductor
0.14	26	27/0.08	0.5	—	149	143
0.25	24	48/0.08	0.7	—	83.6	80.4
0.34	22	68/0.08	0.85	—	59.1	56.8
0.5	20	110/0.08	1.0	—	36.5	35.1
0.75	18	167/0.08	1.2	—	24.0	23.1
1.0	18	7/27/0.08	1.4	—	—	20.8
1.5	16	7/41/0.08	1.7	—	—	13.7
2.5	14	7/70/0.08	2.3	—	—	8.04
4	12	7/110/0.08	2.8	4.92	—	5.12
6	10	7/99/0.1	3.3	3.50	—	3.64
10	8	7/53/0.18	4.4	2.02	—	2.10
16	6	7/84/0.18	5.7	1.27	—	1.32
25	4	19/49/0.18	7.0	0.804	—	0.836
35	2	19/71/0.18	8.2	0.571	—	0.593

CONDUCTOR - USED FOR FIXED INSTALLATION

Nominal cross sectional area		Composition		Conductor resistance (Ω/km)	
mm²	AWG	Composition (Qty/mm)	Dia. (mm)	Single conductor	Multi-conductor
0.5	20	21/0.18	0.95	34.9	35.6
0.75	18	33/0.18	1.1	22.2	22.7
1.0	18	37/0.18	1.2	19.8	20.2
1.5	16	56/0.18	1.6	13.1	13.4
2.5	14	93/0.18	2.0	7.89	8.04
4	12	7/20/0.18	2.6	5.34	5.45
6	10	7/32/0.18	3.1	3.34	3.41
10	8	7/53/0.18	4.2	2.02	2.06
16	6	7/40/0.26	5.3	1.28	1.31
25	4	19/49/0.18	6.7	0.804	0.820
35	2	19/34/0.26	8.0	0.555	0.566

IDENTIFICATION FOR INSULATED WIRE (exclusive of TWISTED PAIR INSULATED WIRE)

Core no.	1	2	3	4	5	6
Identification	BK	WH	RD	GN	YE	BN
Core no.	7	8	9	10	11	12
Identification	BU	GY	OR	PK	lt-B	VT

IDENTIFICATION FOR TWISTED PAIR INSULATED WIRE

Core no.	1	2	3	4
Identification	WH×BN	GN×YE	GY×PK	BU×RD
Core no.	5	6	7	8
Identification	BK×VT	GY/PK×RD/BU	WH/GN×BN/GN	WH/YE×YE/BN
Core no.	9	10	11	12
Identification	WH/GY×GY/BN	WH/PK×PK/BN	WH/BU×BN/BU	WH/RD×BN/RD
Core no.	13	14	15	16
Identification	WH/BK×BN/BK	GY/GN×YE/GY	PK/GN×YE/PK	GN/BU×YE/BU
Core no.	17	18	19	20
Identification	GN/RD×YE/RD	GN/BK×YE/BK	GY/BU×PK/BU	GY/RD×PK/RD

TECHNICAL DATA - II

NFPA70/NFPA79 CURRENT CARRYING CAPACITY

Nominal cross sectional area		Temperature ratio				
		60°C	75°C	90°C	60°C	75°C
mm²	AWG	TW	THW THHW	THHW THW-2	MTW	
0.5	20AWG	—	—	—	5	5
1	18AWG	—	—	18	7	7
1.5	16AWG	—	—	24	10	10
2.5	14AWG	25	30	35	15	15
4	12AWG	30	35	40	20	20
6	10AWG	40	50	55	30	30
10	8AWG	60	70	80	40	50
16	6AWG	80	95	105	55	65
25	4AWG	105	125	140	70	85
35	2AWG	140	170	190	95	115

ADJUSTMENT FACTORS BY AMBIENT TEMPERATURE

Ambient temperature [°C]	Adjustment factors by ambient temperature			
	60°C	75°C	90°C	75°C
	TW	THW THHW	THHW THW-2	MTW
21-25	1.08	1.04	1.04	1.05
26-30	1.00	1.00	1.00	1.00
31-35	0.91	0.94	0.96	0.94
36-40	0.82	0.88	0.91	0.88
41-45	0.71	0.82	0.87	0.82
46-50	0.58	0.75	0.82	0.75
51-55	0.41	0.67	0.76	0.67
56-60	—	0.58	0.71	0.58
61-70	—	0.33	0.58	0.33
71-80	—	—	0.41	—

ADJUSTMENT FACTORS BY NUMBER OF CURRENT-CARRYING CONDUCTORS

Current-carrying conductors	Adjustment factors
4-6	0.8
7-9	0.7
10-20	0.5
21-30	0.45
31-40	0.4
41以上	0.35

ADDITIONAL DATA OF INSULATED WIRE

APPROVAL / CHARACTERISTICS

WOL（Page409）

SUBJECT	UL	cUL
STANDARD	UL758	C22.2 No.210.2
CERTIFICATE NUMBER	E311670	E311670
CABLE DESIGNATION	Style 11181	Class Ⅰ A/B
RATED VOLTAGE	300V	300V
DIELECTRIC VOLTAGE-WITHSTAND	2000V/1 min.	
INSULATION RESISTANCE	100MΩ・km	
LIMITING TEMPERATURE	90℃	90℃
FLAME RETARDANT	VW-1	FT2

WML（Page410）

SUBJECT	CE	(UL)	UL	c (UL)	CCC	PSE
STANDARD	HD21	UL1063	UL758	C22.2 No.75	GB5023	Electrical Appliance and Material Safety Law
CERTIFICATE NUMBER	—	E312605	E311670	E312595	A069711	JET5808-12001
CABLE DESIGNATION	0.5～1.0mm²：H05V-K 1.5～35mm²：H07V2-K	Type MTW	Style 1015	TW75	0.5～1.0mm²：227 IEC06 (RV) 1.5～35mm²：227 IEC02 (RV)	HKIV
RATED VOLTAGE	0.5～1.0mm²：300/500V 1.5～35mm²：450/750V	600V	600V	600V	0.5～1.0mm²：300/500V 1.5～35mm²：450/750V	600V
DIELECTRIC VOLTAGE-WITHSTAND	2500V/5 min.	2500V/1 min.	2000V/1 min.	2000V/1 min.	2500V/5 min.	2500V/1 min.
INSULATION RESISTANCE	100MΩ・km（at20℃）					
LIMITING TEMPERATURE	70℃	90℃	105℃	75℃	70℃	75℃
FLAME RETARDANT	IEC 60332-1	VW-1	VW-1	FT1	IEC 60332-1	60° angle

TECHNICAL DATA - TEST DATA

OIL RESISTANCE OF TPE + PUR SUPER SANCABLE

Test purpose: To evaluate insulation resistance of SUPER SANCABLE

TEST METHOD

1. To fix 0.3m-long cables to equipment with cable glands (KEIGLAND)
2. To soak the test specimen with coolant
3. To keep ambient temperature inside an incubator at 50°C, and place and keep the test specimen inside
4. To check the duration of time until which the insulation resistance of test specimen become 500MΩ or lower

* 500MΩ for 0.3m can be calculated into 15MΩ for 10m

Condition of cables being soaked in coolant

Condition of cables right after soaked in coolant

COOLANT FOR TEST

(a)	YUSHIRO CHEMICAL INDUSTRY CO.,LTD.	＃770TG	Concentration50%（Dilution water：Hard water）
(b)	KYODO YUSHI CO.,LTD.	CSF 8000B	Concentration50%（Dilution water：Hard water）
(c)	SUGIMURA CHEMICAL INDUSTRIAL CO.,LTD.	CS-68 JS-1	Concentration50%（Dilution water：Hard water）

Concentration of coolant: In order to make the test environment more harsh , we conducted the test with the concentration 50%

TEST SPECIMEN

(1)	SUPER SANCABLE	VGF
(2)	SANCABLE (POLYVINYL CHLORIDE INSULATED AND SHEATHED PORTABLE POWER CABLES)	VCT

FINDINGS OF TEST

Test Specimen	Coolant	Insulation resistance (Initial value)	Insulation resistance after duration of testing time indicated	
			Duration of testing time	Insulation resistance
SUPER SANCABLE VGF	＃770TG	250GΩ	2800 hours	1000MΩ
	CSF8000B	250GΩ	2800 hours	1200MΩ
	CS-68JS-1	250GΩ	2800 hours	1400MΩ
POLYVINYL CHLORIDE INSULATED AND SHEATHED PORTABLE POWER CABLES VCT	＃770TG	500GΩ or more	360 hours	370MΩ
	CSF8000B	500GΩ or more	360 hours	180MΩ
	CS-68JS-1	500GΩ or more	360 hours	280MΩ

Insulation resistance of SUPER SANCABLE: 1000MΩ after 2800-hour test was conducted
Insulation resistance of VCT: 500MΩ after 360-hour test was conducted.

Findings: From the view point of the duration of testing time, SUPER SANCABLE has high insulation resistance as 8 times as (or more) VCT does.

CONCLUSION

SUPER SANCABLE is TPE insulation, PUR outer sheath cable. Both the materials are high oil resistant. Therefore, compared to VCT (PVC insulation, PVC outer sheath cable), SUPER SANCABLE has much better performance in terms of oil resistance

DESCRIPTION OF CATALOG NUMBER

（例）V D G 2 B F 20C×0.75 BU

- Sheath color（No indication : LG - light gray, BK:black,BU : blue, RD : red, VT : violet, OG : orange, GN : green, YE : yellow,BN : brown, GY : grey, WH : white, PK : pink, G/Y : green/yellow, W/B : white/blue ）
- Nominal cross sectional area (mm²)
- No. of cores (C: No. of cores, P: No. of pairs)
- Installation (F... Flexing cycle, L... Fixed installation)
- Shield (No indication... No shield , B... with Shield , E... with Inner sheath & shield , W... with Double shield , Q ... with Drain wire & shield
- Version(No indication...The 1st version , 2...The 2nd version
- Insulation and Sheath

	G	O	H	U	N
Insulation	TPE	Oil resistant PVC	Oil resistant PVC	Oil resistant PVC	Non-Oil resistant PVC
Sheath	PUR	Oil resistant PVC	PUR	PUR+PVC	Non-Oil resistant PVC

The abbreviation is either M, MT, L, LT (MTW, CL3), Z, ZT(CCC), O is NOT applicable

- Characteristic (No indication... Normal , D... DESINA , K... Combined cable , L... CL3 , LT... CL3 & 2.5 ㎟ ground conductor , M... MTW , MT... MTW & 2.5 ㎟2 ground conductor , P... Twisted pair conductor , Z... CCC, ZT... CCC & Identification BU , S ... Color identification
- Group (V... Cable , V2... No sheath cable , W... Insulated wire)

SAFETY STANDARDS

1 UL13（Power-Limited Circuit Cables） CL3
2 UL444/C22.2 No.214（Communications Cables） CM
3 UL758（Appliance Wiring Material） AWM
4 UL1063（Machine Tool Wire） MTW
5 UL1277（Electrical Power and Control Tray Cables with Optional Optical-Fiber Members） TC-ER
6 JIS C 3306 ビニルコード（Polyvinyl chloride insulated flexible cords）
7 JIS C 3312 600Vビニル絶縁ビニルキャブタイヤケーブル（600V Grade polyvinyl chloride insulated and sheathed portable power cables）
8 2006/95/EEC（Derective 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits）
9 C 22.2 No.220.2（Appliance wiring material products）
10 HD 21（Polyvinyl chloride insulated cable of rated voltages up to and including 450/750V）
11 VDE 0812（Equipment wires and stranded equipment wires for telecommunication systems and date processing systems）
12 EN 50265-2-1（Common Test Methods for Cables Under Fire Conditions-Test for Resistance to Vertical Flame Propagation for a single Insulated Conductor or Cable-Part 2-1:Procedyres-1KW Pre-Mixed Flame）
13 IEC 60332-1-2（Tests on electric and optical fibre cables unber fire conditions Part 1-2:Test for Vertical Flame Propagation for a single Insulated Wire or Cable - Procedure for 1KW Pre - Mixed Flame）
14 GB 5023（Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V）
15 DESINA（Distributed and standardised installation technology for machine tools and manufacturing systems）

NFPA70 / NFPA79

■ Requirements for machine tools in/for the U.S.A. Market

AWM cables (ᵁᴸ:UL758) have not been allowed to be utilized for machine tools in/for the U.S.A. market since NFPA79「Electrical Standard for Industrial Machinery」-2007 took effect. UL Listed cables (e.g. MTW cables （UL1063：Machine Tool Wire） are required for machine tools in/for the U.S.A. market.

■ SANKEI SANCABLE - UL Listed cables

We have the product lines with in conformity with the standards indicated in the chart shown hereby. Those cables comply with NFPA70「National Electrical Code」-2008 and NFPA79「Electrical Standard for Industrial Machinery」-2007.

UL Type letter	Certificate number	Rated voltage	Characteristic
Type TC-ER	E312607	600V	Multi-Conductor
Type MTW	E312605		Multi-Conductor, Insulated wire
Type CL3	E319072	300V	Multi-Conductor
Type CMG	E335805		