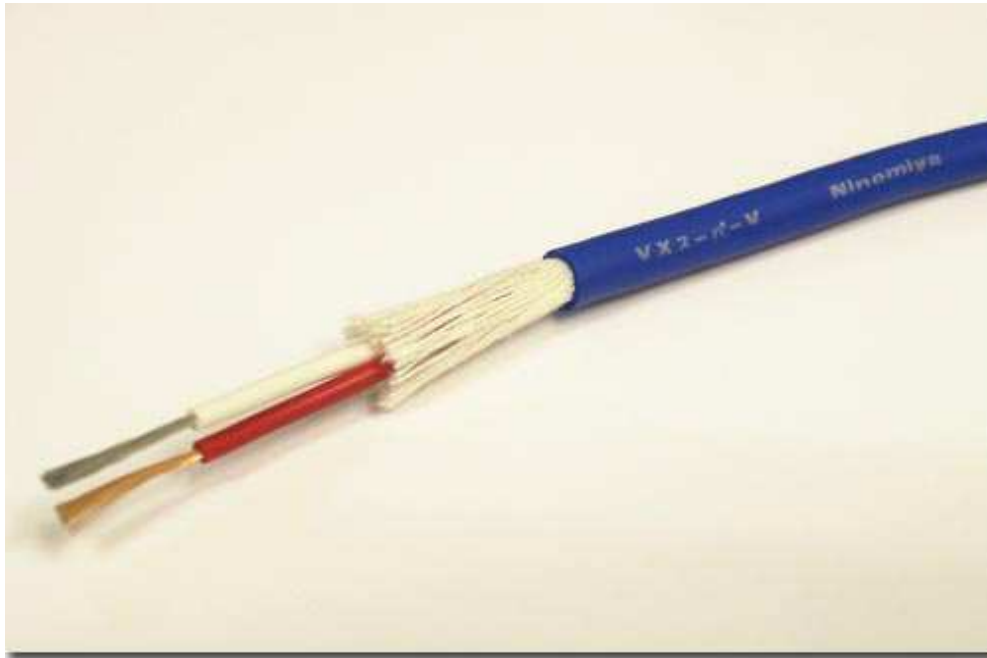
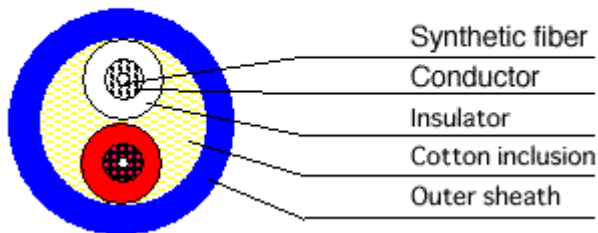


Bending and twisting flexible compensating cables "VX-super V"

"VX-super V" are VX (KCC) compensating cables used as lead wires of K (Chromel/Alumel) thermocouples which correspond with JIS C 1610-1995. This series is recommended to be used for wirings in moving parts of injection mold machines, robots and etc., because of its excellent flexibility for bending and twisting.



Sectional view



Conductor	Thin wires which VX (KCC) (copper nickel alloy for Copper-VX(KCC)) correspond with JIS C 1610-1995 and synthetic fiber are bound together. Excellent in flexibility.
Insulator and outer sheath	Heat-resistant PVC is used for insulation, while bending and twisting flexible heat-resistant soft PVC is used for sheath. Color coding: red for + side and white for ? side of insulator; blue (JIS Section 2) for sheath.
Twin stranding	Two insulators are stranded (twin stranding) and cotton is used as inclusion. This allows less adhesion, appropriate room for expansion inside the cable, and less burden to metal conductor.
Operating temperature	-20°C - +90°C

Construction							
Sectional area nom.	Conductor		Insulator		Twin stranding with cotton inclusion	Coating	Finished OD
	No. of wires/Dia. of elemental wire	OD mm	Thickness mm	OD mm	OD mm	Thickness mm	OD mm
mm ²							

	No./mm						
0.5	45/0.12	1.2	0.5	2.2	4.4	0.8	6.0

Electrical Characteristics			
Electromotive force			Temperature tolerance
°C	50	100	0°C~100°C
μV	2023	4096	±100μV

Bending Test			
Source			No. of complete breaks
A	45/0.12x1P VX-super V	Bending and twisting flexible type	36,800
B	7/0.3x1P VX-G	Parallel type (most commonly used)	350
C	30/0.18x1P vx-G-1S=VVR	Shielded round type (standard product)	1,650
D	30/0.18x1P VX-G-1S=VV3R	Soft PVC used for sheath material	3,080

Test method and equipment: PVC wire test (JIS C 3005, 18), bending test equipment

Test condition: Test type B (r=150mm, l=200mm) 20 rotations/1 min.

According to the test results, although B is the most commonly used compensating cable, it is not recommended to be used for wiring in moving parts. The thickness of wire (0.3 mm) and the parallel structure of B are not good for bending and twisting. C and D shows good results due to thin and round structures, and A is the most excellent in bending and twisting flexibility.