

### 1 Wire Structure

Conductor   Structure   Single   conductor   diameter	project		unit	technical requirement	
Structure  Single conductor conductor r  Conductor twist outer mm  0.4±0.05  FEP (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation thickness Minimum thickness at any point  Insulation outer diameter  Twisted outer diameter  Twisted outer diameter  Twisted outer diameter  The film wound inside and outside the winding layer  Sheath material  Sheath material  Single conductor mm  0.4±0.05  FEP (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation mm  0.15  Tivisted outer mm  0.7±0.05  Thisted outer diameter mm  17*0.075 White film  17*0.075 White film  Mound inside and outside the winding layer  Sheath material  Sheath material  Sheath material  Minimum thickness Minimum thickness  Minimum thickness at any point  Outer diameter of finished mm  6.5±0.15		Conductor	NI/	10/0.085C   8C	
conducto r Conductor twist outer mm  insulatio n  Nominal insulation thickness at any point  Twisted outer diameter  y  Summar y  Summar y  Suminal y  Sheath Marking Structure  Sheath Minimum thickness and outside the winding layer  Sheath Minimum thickness  Minimum thickness and outside the winding layer  Sheath material  Minimum thickness Minimum thickness  Minimum thickness at any point  Outer diameter  mm  O.7±0.05  Minimum  A.4±0.10  Cotton rope  PTFE film wound inside and outside the winding layer  Sheath material  Mominal sheath thickness  Minimum thickness  Minimum thickness at any point  Outer diameter of finished  mm  O.5±0.15		Structure	IN/IIIIII	19/0.08SC+8C	
conductor r Conductor twist outer diameter    Conductor   mm	1	Single		0.08±0.003	
r Conductor twist outer diameter    Conductor twist outer   mm   0.4±0.05		conductor	mm		
Conductor twist outer diameter		diameter			
insulation material — FEP  insulation material — FEP  (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation mm 0.15  Minimum thickness at mm 0.12  any point Insulation outer diameter mm 4.4±0.10  Twisted outer diameter mm 4.4±0.10  PTFE film wound inside and outside the winding layer  shield Weaving Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness at mm 0.85  Minimum thickness at mm 0.70  any point — 0.70  Outer diameter of finished mm 6.5±0.15	r	Conductor		0.4±0.05	
insulation material — (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation mm 0.15  Minimum thickness at mm 0.12  any point Insulation outer diameter mm 4.4±0.10  PTFE film wound inside and outside the winding layer  shield Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness at mm 0.70  Nominal sheath thickness at mm 0.70  any point — 0.85  Minimum thickness at mm 0.70  any point — 0.70  Outer diameter of finished mm 6.5±0.15		twist outer	mm		
insulation material — (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation mm 0.15  Minimum thickness at mm 0.12 any point Insulation outer diameter mm 4.4±0.10  Twisted outer diameter mm 4.4±0.10  PTFE film wound inside and outside the winding layer  shield Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness at mm 0.85  Minimum thickness at mm 0.70 any point — 0.70  Outer diameter — 0.70  Outer diameter — 0.70		diameter			
material — (red/black/white/gray/blue/brow n/yellow/green)  Nominal insulation mm 0.15  Minimum thickness at mm 0.12  any point Insulation outer diameter mm 0.7±0.05  Twisted outer diameter mm 4.4±0.10  PTFE film wound inside and outside the winding layer  shield Weaving Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness at mm 0.70  Minimum thickness at mm 0.70  Outer diameter of finished mm 6.5±0.15		. 1		FEP	
Insulation n mm				(red/black/white/gray/blue/brow	
insulatio n  Insulation thickness  Minimum thickness at mm 0.12  any point  Insulation outer diameter  Twisted outer diameter  padding PTFE film wound inside and outside the winding layer  Shield  Sheath material  Sheath Minimum thickness at mm 0.7±0.05  Twisted outer mm 4.4±0.10  Cotton rope  PTFE film wound inside and outside the winding layer  Sheath material  Nominal sheath thickness  Minimum thickness at mm 0.85  Minimum thickness at any point  Outer diameter of finished  mm 6.5±0.15		material		n/yellow/green)	
insulatio n  Minimum thickness at mm 0.12 any point  Insulation outer diameter  Twisted outer mm 4.4±0.10  PTFE film wound inside and outside the winding layer  shield  Sheath material  Sheath  Minimum thickness at mm 0.7±0.05  Twisted outer mm 4.4±0.10  Cotton rope  PTFE film wound inside and outside the winding layer  Sheath  Minimum thickness  Minimum thickness at mm 0.85  Minimum thickness at any point  Outer diameter of finished  mm 6.5±0.15		Nominal			
thickness   Minimum   thickness at   mm   0.12   any point    Insulation outer   mm   0.7±0.05    Twisted outer   mm   4.4±0.10    Padding   — Cotton rope    PTFE film   wound inside   and outside the   winding layer    shield   Weaving   — 176/0.1 Tinned copper alloy   (98%)    Sheath material   — 80A tear-resistant silicone (dark   gray)    Nominal sheath   thickness   mm   0.85    Minimum   thickness at   mm   0.70   any point    Outer diameter   of finished   mm   6.5±0.15		insulation	mm	0.15	
Minimum thickness at any point  Insulation outer diameter  Twisted outer diameter  padding  PTFE film wound inside and outside the winding layer  Shield  Sheath material  Nominal sheath thickness  Minimum thickness at any point  Minimum thickness at any point  Outer diameter  mm  0.7±0.05  Minimum 4.4±0.10  Cotton rope  Totton rope  17*0.075 White film 10*0.85  Minimum 10*0.85	insulatio	thickness			
Insulation outer diameter	n	Minimum			
Insulation outer diameter		thickness at	mm	0.12	
Summar y  Twisted outer diameter  padding  PTFE film wound inside and outside the winding layer  Shield  Sheath material  Nominal sheath thickness  Minimum thickness at any point  Outer diameter  Twisted outer mm 4.4±0.10  Cotton rope  T7*0.075 White film  17*0.075 White film  176/0.1 Tinned copper alloy (98%)  80A tear-resistant silicone (dark gray)  Nos mm 0.85  Minimum thickness at mm 0.70  any point  Outer diameter of finished mm 6.5±0.15		any point			
Summar y  Twisted outer diameter  padding  PTFE film wound inside and outside the winding layer  shield  Sheath material  Sheath  Nominal sheath thickness  Minimum thickness at any point  Outer diameter  Twisted outer mm 4.4±0.10  Cotton rope  Tr*0.075 White film  17*0.075 White film  176/0.1 Tinned copper alloy (98%)  80A tear-resistant silicone (dark gray)  Nominal sheath mm 0.85  Minimum thickness at mm 0.70  any point  Outer diameter of finished mm 6.5±0.15		Insulation outer			
Summar y  PTFE film wound inside and outside the winding layer  Shield  Sheath material  Sheath  Sheat		diameter	mm	0.7±0.05	
Summar y  PTFE film wound inside and outside the winding layer  Shield  Structure  Sheath material  Sheath  Minimum thickness at any point  Outer diameter  padding  ———————————————————————————————————		Twisted outer			
Summar y  PTFE film wound inside and outside the winding layer  Weaving Structure  Shield  Structure  Sheath material  Nominal sheath thickness  Minimum thickness at any point  Outer diameter of finished  PTFE film wound inside mm  17*0.075 White film  176/0.1 Tinned copper alloy (98%)  80A tear-resistant silicone (dark gray)  0.85  Mominal sheath mm 0.70  0.70		diameter	mm	4.4±0.10	
y PTFE film wound inside and outside the winding layer  Shield Weaving Structure  Sheath material Nominal sheath thickness  Minimum thickness at any point  Outer diameter of finished  mm  17*0.075 White film  176/0.1 Tinned copper alloy (98%)  80A tear-resistant silicone (dark gray)  0.85  Monimum 0.70  0.70		padding	—— Cotton rope		
wound inside and outside the winding layer  Shield  Weaving Structure  Sheath material  Nominal sheath thickness  Minimum thickness at any point  Outer diameter of finished  mm 17*0.075 White film  176/0.1 Tinned copper alloy (98%)  80A tear-resistant silicone (dark gray)  0.85  Mominal sheath mm 0.85		PTFE film			
and outside the winding layer  Weaving Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness — mm 0.85  Minimum thickness at mm 0.70  any point — Outer diameter of finished mm 6.5±0.15	У	wound inside	mm		
shield Weaving Structure — 176/0.1 Tinned copper alloy (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness		and outside the		17*0.075 White film	
shield Structure (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness  Minimum thickness at mm 0.70  any point  Outer diameter of finished mm 6.5±0.15		winding layer			
Structure (98%)  Sheath material — 80A tear-resistant silicone (dark gray)  Nominal sheath thickness  Minimum thickness at mm 0.70  any point  Outer diameter of finished mm 6.5±0.15		Weaving		176/0.1 Tinned copper alloy	
Sheath material gray)  Nominal sheath thickness  Minimum thickness at mm 0.70 any point  Outer diameter of finished mm 6.5±0.15	shield	Structure		(98%)	
Sheath  Nominal sheath thickness  Minimum thickness at mm 0.70 any point  Outer diameter of finished mm 6.5±0.15		CI d		80A tear-resistant silicone (dark	
sheath  thickness  Minimum thickness at mm 0.70 any point  Outer diameter of finished mm 6.5±0.15		Sheath material		gray)	
thickness  Minimum thickness at mm 0.70 any point  Outer diameter of finished mm 6.5±0.15	sheath	Nominal sheath		225	
sheath thickness at mm 0.70 any point Outer diameter of finished mm 6.5±0.15		thickness	mm	0.85	
thickness at mm 0.70 any point  Outer diameter of finished mm 6.5±0.15		Minimum		0.70	
Outer diameter of finished mm 6.5±0.15		thickness at	mm		
of finished mm 6.5±0.15		any point			
		Outer diameter		6.5±0.15	
		of finished	mm		
product		product			

## 2 Electrical and mechanical physical properties

project	unit	test condition	technical requirement
Insulation spark withstand voltage		3kV	No breakdown
Insulation water immersion pressure		1kV/1min	No breakdown
rated voltage		300V	
rated temperature		-60°C ∼ +200°C	

### 3. Change column

NO.	Version/Relea se	Change date	Change Description	Change s	exam ine and verify
1	A/0	2022.07.01	editio princeps		
2	A/1	2023.01.11	Edit mesh structure		

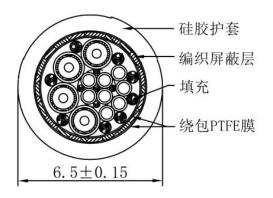
### 4. Notes

- 1. No printing on the surface of the wire.
- 2. The wire shall be perfectly round, flexible, and possess tensile and bending resistance. For specific requirements, please refer to Appendix 1: "Silicone Wire Acceptance Standard".



# ZST-MC165Q Quad-Coaxial Silicone Wire Data Sheet Patent No.: ZL 2022 2 0770671.6

## 5 Product Structure Diagram



RF137 coaxial cable

Conductor: 7/0.10 silver-coated copper ++tin-coated copper braided shield

OD: 1.37±0.05 Material: FEP

Color: Black/Dark Gray/Light Gray/White

Impedance: 50 Ohms

### Annex 1 Silicone wire acceptance standard:

order number	project	acceptance level	remarks
1	surface	The surface of the wire is smooth, without burrs, cracks, scratches and deformation defects, the wire is round and uniform, the color is dark gray, without patterns, color differences and other defects, no obvious irritating smell.  The silicone coating has a softness of 80A, and is resistant to oil, corrosion and high temperature of 200 degrees.	
2	electrical character	1000V/60S insulation water ingress resistance.  The insulation spark withstand voltage is 3000V.  The electromagnetic shielding coverage exceeds 90% under all bending, twisting, and usage modes, and must pass the EMI (radiation emission and conducted emission) and EMS (radiation interference resistance, conducted interference resistance, and power frequency magnetic field interference resistance) tests in the YY9706.102-2021 medical standard EMC testing program.  The coaxial and electronic cables have passed signal stability tests, with both video and electrical signals remaining stable under YY9706.102-2021 Medical's EMC testing standards.	The cable shielding coverage exceeds 90%, but the interference test requires coordination with your company's PCB, connectors, and system testing.  The test requires coordination with Zhong 'an Shida's PCB, connectors, and system testing.
3	mechanical properties	The bending test applies a load of 400g, with 12.5mm R corners bent upward and downward at 90 degrees for 30,000 cycles.  The torsion test weighs 450g, and each 0.6 meters is twisted 180 degrees for 100,000 times.  The controller underwent a simulated test involving external pulling and twisting, with no noticeable movement or displacement of the internal electronic wires.	