

CERTIFICATE OF CONFORMITY – EC (MODULE F)

Certificate no.:
MEDF000043U
Revision no.:
0

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the Fixed fire detection and fire alarm systems components for control stations, service spaces, accommodation spaces, cabin balconies, machinery spaces and unattended machinery spaces:- cables

with type designation and serial/batch number

**CHJJP85/NSC & CHJJP95/NSC & CHJJP85/NSC & CHJJP95/NSC
CHJPF86/NSC & CHJPF96/NSC & CHJFPF86/NSC & CHJFPF96/NSC;**

CHJFPF86/NSC 150/250V 1x2x0.75mm2 (CH25080515-001),CHJFPF86/NSC 150/250V 1x2x1.5mm2 (CH25080516-003/-005/-009/-010/-011/-012/-013),CHJFPF86/NSC 150/250V 2x2x0.75mm2(CH25080517-002/-003),CHJFPF86/NSC 150/250V 4x2x0.75mm2(CH25080518-002/-003),CHJFPF86/NSC 150/250V 14x2x0.75mm2(CH25080521-001),CHJFPF86/NSC 150/250V 1x2x1.5mm2(CH25080535-001)

issued to

Changzhou Marine Cable Co., Ltd.
CHANGZHOU, China

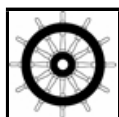
is, by product verification in accordance with Module F in the Directive, found to comply with:
Regulation (EU) 2025/1533, Item no. **MED/3.51i**
EC Type-Examination Certificate, no. **MEDB00006NC Revision 1**

DNV Assessment Report - Fabrication, dated: **2025-10-15**

Issued on **2025-11-24**

DNV local unit:
Nanjing NB & CMC

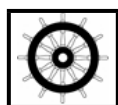
Approval Engineer:
Carsten Hunsalz



Notified Body
no.: **0098**

for **DNV SE**

Christine Mydlak-Röder
Head of Notified Body



0098/yyyy

0098: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate remains valid unless suspended, withdrawn, recalled or cancelled, provided this equipment is not modified without the acceptance of the notified body named herein. This certificate authorises the manufacturer to affix the "Mark of Conformity" (wheelmark) to the product described herein.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Test Report

QR1810

Product Name: CHJFPF86/NSC 14×2×0.75mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-10			
Drum No.: CH25080521		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Consturion and markings		Blue1#	Red1#	
1.1	Outer visual inspection	The cable shall be continuously marked with the name of manyfacturer,product mode and voltage grade	Pass		P
1.2	Continuity of marking (mm)	≤550	263		P
1.3	Cable marking	Durable and legible	Pass		P
1.4	Number of conductors (n)	≥7	7	7	P
1.5	Mean Thickness of Insulation (mm)	≥0.5	0.5	0.5	P
1.6	Min. Thickness of Insulation (mm)	≥0.35	0.41	0.42	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.6	1.7		P
1.8	Min. Thickness of Inner Sheath (mm)	≥1.26	1.56		P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.5	1.6		P
1.10	Min. Thickness of Outer Sheath (mm)	≥1.18	1.47		P
1.11	Filling Factor	≥0.573	0.589		P
1.12	Overall Diameter (mm)	31.2-32.5	31.2		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	18.8	18.2	P
	——Elongation at break (%)	≥200	420	427	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)				
	——Elongation under load (%)	≤175	25	25	P
	——Elongation after unloading (%)	≤15	0	0	P
3	Mechanical properties of Sheath				
3.1	Before aging		Inner Sheath	Outer Sheath	
	——Tensile strength (N/mm ²)	≥9.0	11.5	11.2	P
	——Elongation at break (%)	≥120	154	151	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.5	25.5	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1231	1231	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25		P
4.4	Insulation resistance between shield and shield at 20℃ (MΩ·km)	≥1	>1		P
4.5	Voltage test on completed cable	AC 1.5kV/5min No Breakdown	No Breakdown		P
4.6	Voltage test on sheath	AC 3kV No Breakdown	No Breakdown		P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.					
Editor: 张巧		Checker: 李斌	Approver: 秦峰		
Note:"P"means this item does meet the requirement,"F"means this item does not meet the requirement,"N"means this item does not apply to test object."/"means this item does not require testing.					

Test Report

QR1810

Product Name: CHJPP86/NSC 4×2×0.75mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-10			
Drum No.: CH25080518		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Construction and markings		Blue1#	Red1#	
1.1	Outer visual inspection	The cable shall be continuously marked with the name of manufacturer, product mode and voltage grade	Pass		P
1.2	Continuity of marking (mm)	≤550	263		P
1.3	Cable marking	Durable and legible	Pass		P
1.4	Number of conductors (n)	≥7	7	7	P
1.5	Mean Thickness of Insulation (mm)	≥0.5	0.5	0.5	P
1.6	Min. Thickness of Insulation (mm)	≥0.35	0.41	0.42	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.2	1.3		P
1.8	Min. Thickness of Inner Sheath (mm)	≥0.92	1.24		P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.3	1.4		P
1.10	Min. Thickness of Outer Sheath (mm)	≥1.01	1.23		P
1.11	Filling Factor	≥0.573	0.586		P
1.12	Overall Diameter (mm)	19.1-19.6	19.5		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	18.6	18.5	P
	——Elongation at break (%)	≥200	420	413	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)				
	——Elongation under load (%)	≤175	25	25	P
	——Elongation after unloading (%)	≤15	0	0	P
3	Mechanical properties of Sheath				
3.1	Before aging		Inner Sheath	Outer Sheath	
	——Tensile strength (N/mm ²)	≥9.0	11.0	11.4	P
	——Elongation at break (%)	≥120	159	160	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.5	25.5	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1147	1147	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25		P
4.4	Insulation resistance between shield and shield at 20℃ (MΩ·km)	≥1	>1		P
4.5	Voltage test on completed cable	AC 1.5kV/5min No Breakdown	No Breakdown		P
4.6	Voltage test on sheath	AC 3kV No Breakdown	No Breakdown		P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.					
Editor: 张 强		Checker: 李 明	Approver: 蔡 靖		
Note: "P" means this item does meet the requirement, "F" means this item does not meet the requirement, "N" means this item does not apply to test object. "/" means this item does not require testing.					

Test Report

QR1810

Product Name: CHJFPF86/NSC 2×2×0.75mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-10			
Drum No.: CH25080517		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Construction and markings		Blue1#	Red1#	
1.1	Outer visual inspection	The cable shall be continuously marked with the name of manufacturer, product mode and voltage grade	Pass		P
1.2	Continuity of marking (mm)	≤550	265		P
1.3	Cable marking	Durable and legible	Pass		P
1.4	Number of conductors (n)	≥7	7	7	P
1.5	Mean Thickness of Insulation (mm)	≥0.5	0.5	0.5	P
1.6	Min. Thickness of Insulation (mm)	≥0.35	0.41	0.41	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.3	1.4		P
1.8	Min. Thickness of Inner Sheath (mm)	≥1.01	1.27		P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.2	1.3		P
1.10	Min. Thickness of Outer Sheath (mm)	≥0.92	1.23		P
1.11	Filling Factor	≥0.573	0.588		P
1.12	Overall Diameter (mm)	16.5-17.0	16.8		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	19.2	18.8	P
	——Elongation at break (%)	≥200	411	409	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)				
	——Elongation under load (%)	≤175	25	25	P
	——Elongation after unloading (%)	≤15	0	0	P
3	Mechanical properties of Sheath				
3.1	Before aging		Inner Sheath	Outer Sheath	
	——Tensile strength (N/mm ²)	≥9.0	11.3	11.5	P
	——Elongation at break (%)	≥120	166	169	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.4	25.4	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1098	1098	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25		P
4.4	Insulation resistance between shield and shield at 20℃ (MΩ·km)	≥1	>1		P
4.5	Voltage test on completed cable	AC 1.5kV/5min No Breakdown	No Breakdown		P
4.6	Voltage test on sheath	AC 3kV No Breakdown	No Breakdown		P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.					
Editor: 张子		Checker: 张子	Approver: 秦靖		
Note: "P" means this item does meet the requirement, "F" means this item does not meet the requirement, "N" means this item does not apply to test object, "/" means this item does not require testing.					

Test Report

QR1810

Product Name: CHJFP86/NSC 1×2×1.5mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-10			
Drum No.: CH25080516		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Constrution and markings		Blue	Red	
1.1	Outer visual inspection	The cable shall be continuously marked with the name of manyfacturer,product mode and voltage grade	Pass		P
1.2	Continuity of marking (mm)	≤550	270		P
1.3	Cable marking	Durable and legible	Pass		P
1.4	Number of conductors (n)	≥7	7	7	P
1.5	Mean Thickness of Insulation (mm)	≥0.6	0.6	0.6	P
1.6	Min. Thickness of Insulation (mm)	≥0.44	0.53	0.53	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.0	1.1		P
1.8	Min. Thickness of Inner Sheath (mm)	≥0.75	1.04		P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.2	1.3		P
1.10	Min. Thickness of Outer Sheath (mm)	≥0.92	1.22		P
1.11	Filling Factor	≥0.573	0.589		P
1.12	Overall Diameter (mm)	12.4-12.8	12.8		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	19.1	18.6	P
	——Elongation at break (%)	≥200	415	418	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)				
	——Elongation under load (%)	≤175	25	25	P
	——Elongation after unloading (%)	≤15	0	0	P
3	Mechanical properties of Sheath				
3.1	Before aging		Inner Sheath	Outer Sheath	
	——Tensile strength (N/mm ²)	≥9.0	12.3	11.5	P
	——Elongation at break (%)	≥120	172	164	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤12.9	12.5	12.5	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥638	1125	1125	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25		>0.25	P
4.4	Voltage test on completed cable	AC 1.5kV/5min No Breakdown	No Breakdown		P
4.5	Voltage test on sheath	AC 3kV No Breakdown	No Breakdown		P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.					
Editor: 张 强		Checker: 李 明	Approver: 秦 清		
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Test Report

QR1810

Product Name: CHJFP86/NSC 1×2×0.75mm ²		DNV project No.: AA00728H		
Test Type: Sampling Test		Hull No. of the ship: G175K-10		
Drum No.: CH25080515		Date: 2025.10.14		
No.	Test Items	Requirements	Test Results	Verdict
1	Constrution and markings		Blue Red	
1.1	Outer visual inspection	The cable shall be continuously marked with the name of manyfacturer,product mode and voltage grade	Pass	P
1.2	Continuity of marking (mm)	≤550	268	P
1.3	Cable marking	Durable and legible	Pass	P
1.4	Number of conductors (n)	≥7	7 7	P
1.5	Mean Thickness of Insulation (mm)	≥0.5	0.5 0.5	P
1.6	Min. Thickness of Insulation (mm)	≥0.35	0.42 0.41	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.0	1.1	P
1.8	Min. Thickness of Inner Sheath (mm)	≥0.75	1.04	P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.2	1.3	P
1.10	Min. Thickness of Outer Sheath (mm)	≥0.92	1.23	P
1.11	Filling Factor	≥0.573	0.588	P
1.12	Overall Diameter (mm)	10.9-11.3	11.0	P
2	Mechanical properties of insulation			
2.1	Before aging			
	——Tensile strength (N/mm ²)	≥12.5	19.3 19.6	P
	——Elongation at break (%)	≥200	422 430	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)			
	——Elongation under load (%)	≤175	20 20	P
	——Elongation after unloading (%)	≤15	0 0	P
3	Mechanical properties of Sheath			
3.1	Before aging		Inner Sheath Outer Sheath	
	——Tensile strength (N/mm ²)	≥9.0	11.3 11.5	P
	——Elongation at break (%)	≥120	168 159	P
4	Electrical Characteristics			
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.5 25.5	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1302 1302	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25	P
4.4	Voltage test on completed cable	AC 1.5kV/5min No Breakdown	No Breakdown	P
4.5	Voltage test on sheath	AC 3kV No Breakdown	No Breakdown	P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.				
Editor: 张 强		Checker: 李 明	Approver: 秦 靖	
Note:"P"means this item does meet the requirement,"F"means this item does not meet the requirement,"N"means this item does not apply to test object."/"means this item does not require testing.				

Test Report

QR1810

Product Name: CHJFPF86/NSC 1*2*1.5		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship : G175K-10			
Drum No.: CH25080535		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Constrution and markings	The cable shall be continuously marked with the name of manufacturer,product mode and voltage grade Durable and legible	Red	Blue	P
1.1	Outer visual inspection		Pass		
1.2	Continuity of marking(mm)		288		
1.3	Cable marking		Pass		
1.4	Number of conductors (mm)		7	7	
1.5	Mean Thickness of Insulation (mm)		0.6	0.6	
1.6	Min. Thickness of Insulation (mm)		0.54	0.52	
1.7	Mean Thickness of Inner Sheath (mm)		1.1		
1.8	Min. Thickness of Inner Sheath (mm)		1.02		
1.9	Mean Thickness of Outer Sheath (mm)		1.2		
1.1	Min. Thickness of Outer Sheath (mm)		1.09		
1.11	Filling Factor		0.588		
1.12	Overall Diameter (mm)	12.7		P	
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm2)	≥12.5	19.1	18.7	P
	——Elongation at break (%)	≥200	465	436	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm²)				
	——Elongation under load (%)	≤175	15	15	P
	——Elongation after unloading (%)	≤15	0	0	P
3	Mechanical properties of sheath				
3.1	Before aging		Inner Sheath	Outer Sheath	
	——Tensile strength (N/mm2)	≥9.0	11.1	11.4	P
	——Elongation at break (%)	≥120	145	160	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤12.9	12.1	12.0	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥638	1222	1312	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25		P
4.4	Voltage test on completed cable	AC 1.5kv/5min No Breakdown	No Breakdown		P
4.5	Voltage test on sheath	AC 3kv No Breakdown	No Breakdown		P
Conclusion: The items tested comply with IEC 60092-350 and IEC 60092-376.					
Editor: 张巧		Checker: 子明	Approver: 秦靖		

Note: "p" means this item does meet the requirement, "F" means this item does not meet the requirement, "N" means this item does not apply to test object. "/" means this item does not require testing.