

CERTIFICATE OF CONFORMITY – EC (MODULE F)

Certificate no.:
MEDF000043T
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 (CH25080616-002/-003), CHJFPF86/NSC 150/250V 1x2x1.5mm² (CH25080617-002/-003/-004/-005/-006), CHJFPF86/NSC 150/250V 2x2x0.75mm² (CH25080618-002/-003), CHJFPF86/NSC 150/250V 4x2x0.75mm² (CH25080619-001), CHJFPF86/NSC 150/250V 14x2x0.75mm² (CH25080622-001), CHJFPF86/NSC 150/250V 1x2x1.5mm² (CH25080634-001),

issued to

**Changzhou Marine Cable Co., Ltd.
CHANGZHOU, China**

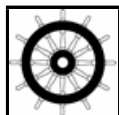
is, by product verification in accordance with Module F in the Directive, found to comply with:
Regulation (EU) 2025/1533, Item no. **MED/3.51i**
EC Type-Examination Certificate, no. **MEDB00006NC Revision 1**

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

Issued on **2025-11-24**

DNV local unit:
Nanjing NB & CMC

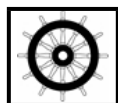
Approval Engineer:
Carsten Hunsalz



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled, provided this equipment is not modified without the acceptance of the notified body named herein.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 4×2×0.75mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-9			
Drum No.: CH25080619		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	266		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	0.42	P
1.7	Mean Thickness of Inner Sheath (mm)	≥1.2	1.3		P
1.8	Min. Thickness of Inner Sheath (mm)	≥0.92	1.21		P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.3	1.4		P
1.10	Min. Thickness of Outer Sheath (mm)	≥1.01	1.26		P
1.11	Filling Factor	≥0.573	0.587		P
1.12	Overall Diameter (mm)	19.1-19.6	19.6		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	18.7	18.9	P
	——Elongation at break (%)	≥200	413	422	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	11.3	P
	——Elongation at break (%)	≥120	164	174	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.6	25.6	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1258	1258	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 斌		Checker: 张 斌	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 2×2×0.75mm ²		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship: G175K-9			
Drum No.: CH25080618		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Constrution 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	272		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)	≥1.3	1.4		P
1.8	Min. Thickness of Inner Sheath (mm)	≥1.01	1.28		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	0.588		P
1.12	Overall Diameter (mm)	16.5-17.0	16.9		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	19.6	18.7	P
	——Elongation at break (%)	≥200	430	419	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	11.8	10.9	P
	——Elongation at break (%)	≥120	170	165	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.6	25.6	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1184	1184	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: 张 强

Approver: 秦 靖

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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-9		
Drum No.: CH25080617		Date: 2025.10.14		
No.	Test Items	Requirements	Test Results	Verdict
1	Construction and markings		Blue Red	
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)	≥0.6	0.6 0.6	P
1.6	Min. Thickness of Insulation (mm)	≥0.44	0.52 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	1.03	P
1.9	Mean Thickness of Outer Sheath (mm)	≥1.2	1.3	P
1.10	Min. Thickness of Outer Sheath (mm)	≥0.92	1.24	P
1.11	Filling Factor	≥0.573	0.587	P
1.12	Overall Diameter (mm)	12.4-12.8	12.7	P
2	Mechanical properties of insulation			
2.1	Before aging			
	——Tensile strength (N/mm ²)	≥12.5	18.6 19.3	P
	——Elongation at break (%)	≥200	417 427	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	11.6 11.0	P
	——Elongation at break (%)	≥120	169 163	P
4	Electrical Characteristics			
4.1	Conductor Resistance at 20℃ (Ω/km)	≤12.9	12.6 12.6	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥638	1359 1359	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	
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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-9				
Drum No.: CH25080616		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 manyfacturer,product mode and voltage grade	Blue	Red		
1.1	Outer visual inspection		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	0.43	P
1.7	Mean Thickness of Inner Sheath (mm)		≥1.0	1.1		P
1.8	Min. Thickness of Inner Sheath (mm)		≥0.75	1.03		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	0.590		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	18.9	19.1	P	
	——Elongation at break (%)	≥200	424	415	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	162	P	
4	Electrical Characteristics					
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.6	25.6	P	
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1201	1201	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: 张 巧

Approver: 秦 靖

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Test Report

QR1810

Product Name: CHJFP86/NSC 14*2*0.75		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship : G175K-9			
Drum No.: CH25080622		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Construction and markings	The cable shall be continuously marked with the name of manufacturer, product mode and voltage grade	Red	Blue	
1.1	Outer visual inspection	≤550	Pass		P
1.2	Continuity of marking(mm)	Durable and legible	285		P
1.3	Cable marking		Pass		P
1.4	Number of conductors (mm)	≥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	0.44	0.46	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
1.1	Min. Thickness of Outer Sheath (mm)	≥1.20	1.52		P
1.11	Filling Factor	≥0.573	0.588		P
1.12	Overall Diameter (mm)	31.2-32.5	31.6		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm ²)	≥12.5	18.4	17.9	P
	——Elongation at break (%)	≥200	442	428	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm ²)				
	——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/mm ²)	≥9.0	10.5	11.1	P
	——Elongation at break (%)	≥120	145	149	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤26.3	25.8	25.7	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥663	1277	1277	P
4.3	Insulation resistance between shield and armor at 20℃ (MΩ·km)	≥0.25	>0.25		P
4.4	Insulation resistance between Individual Screens 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: 徐巧		Checker: 子明	Approver: 秦之清		

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Test Report

QR1810

Product Name: CHJFP86/NSC 1*2*1.5		DNV project No.: AA00728H			
Test Type: Sampling Test		Hull No. of the ship : G175K-9			
Drum No.: CH25080634		Date: 2025.10.14			
No.	Test Items	Requirements	Test Results		Verdict
1	Consturion and markings	The cable shall be continuously marked with the name of manyfacturer,product mode and voltage grade Durable and legible	Red	Blue	
1.1	Outer visual inspection		Pass		P
1.2	Continuity of marking(mm)		288		P
1.3	Cable marking		Pass		P
1.4	Number of conductors (mm)		7	7	P
1.5	Mean Thickness of Insulation (mm)		0.6	0.6	P
1.6	Min. Thickness of Insulation (mm)		0.53	0.53	P
1.7	Mean Thickness of Inner Sheath (mm)		1.1		P
1.8	Min. Thickness of Inner Sheath (mm)		0.98		P
1.9	Mean Thickness of Outer Sheath (mm)		1.2		P
1.1	Min. Thickness of Outer Sheath (mm)		1.09		P
1.11	Filling Factor		0.588		P
1.12	Overall Diameter (mm)	12.4-12.8	12.7		P
2	Mechanical properties of insulation				
2.1	Before aging				
	——Tensile strength (N/mm2)	≥12.5	18.9	17.7	P
	——Elongation at break (%)	≥200	442	426	P
2.2	Hot set test (200±3℃; 15min; 0.2N/mm²)				
	——Elongation under load (%)	≤175	20	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	10.1	11.4	P
	——Elongation at break (%)	≥120	145	152	P
4	Electrical Characteristics				
4.1	Conductor Resistance at 20℃ (Ω/km)	≤12.9	12.2	12.1	P
4.2	Insulation Resistance at 20℃ (MΩ·km)	≥638	1123	1210	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: 子明	Approver: 秦之博
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