TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002M0
Revision No:
1

This is to certify:

That the Electric Power Cable

with type designation(s)
CJ85/SC, CJ95/SC, CJ86/SC, CJ96/SC, CJ82/DA/SA

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (kV)	**0,6/1**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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 300,000 USD.

Product description

Type: CJ85/SC, CJ95/SC, CJ86/SC, CJ96/SC, CJ82/DA/SA

Conductor:	Tinned stranded copper
Insulation:	XLPE
Inner covering:	Extruded in case of galvanized steel wire braid
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

No. of cores:	Cross-sectional area:
1	1mm² up to 300 mm²
2	1mm² up to 120 mm²
3 / (2+E)	1mm² up to 185 mm²
4 - 37	1mm² up to 2,5 mm²

Application/Limitation

General power and lighting. Control.

The following applies to SC and SA type cables only:

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

The following applies to SC type cables only:

Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-1; CT07-0892-2; CT07-1236-6; CT12-3803-1; CT12-3803-2; CT07-1236-4; CT07-1236-5; CT07-1236-3; CT07-1236-1 TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	

Standard	Release	General description	Limitation
IEC 60332-3-22*	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

*SC and SA type only
**SC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CJ86/SC - 0,6/1kV - size - IEC 60332-3-22* - Lot no.

*SC and SA type only

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002KZ
Revision No:
1

This is to certify:

That the Electric Power Cable

with type designation(s)
CJ85/NC, CJ95/NC, CJ86/NC, CJ96/NC, CJ82/NA

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (kV)	**0,6/1**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

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Product description

Type: CJ85/NC, CJ95/NC, CJ86/NC, CJ96/NC, CJ82/NA

Conductor:	Tinned stranded copper
Insulation:	Mica tape + XLPE
Inner covering:	Extruded in case of galvanized steel wire braid
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

No. of cores:	Cross-sectional area:
1	1mm² up to 300 mm²
2	1mm² up to 120 mm²
3 / (2+E)	1mm² up to 185 mm²
4 - 37	1mm² up to 2,5 mm²

Application/Limitation

General power and lighting. Control.

This type of cable is fire resistant in accordance with IEC Publication 60331.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Fire resistant. Flame retardant Cat. A.

The following applies to NC type cables only:

Fire resistant. Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-1; CT07-0892-2; CT07-1236-6; CT12-3803-1; CT12-3803-2; CT07-1236-4; CT07-1236-5; CT07-1236-3; CT07-1236-1; TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	

Standard	Release	General description	Limitation
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60331-1	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-21	1999-04	Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

** NC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CJ86/NC - 0,6/1kV - size - IEC 60332-3-22 - IEC 60331-1/2/21 - Lot no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.
END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002KW
Revision No:
1

This is to certify:

That the Electric Power Cable

with type designation(s)
CJPJ85/SC, CJPJ95/SC, CJPF86/SC, CJPF96/SC, CJV82/DA/SA, CJV92/DA/SA

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (kV)	**0,6/1**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

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Product description

Type: CJPJ85/SC, CJPJ95/SC, CJPF86/SC, CJPF96/SC, CJV82/DA/SA, CJV92/DA/SA

Conductor:	Tinned stranded copper
Insulation:	XLPE
Inner sheath:	PF - SHF1 PJ - SHF2 V - PVC ST2
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

No. of cores:	Cross-sectional area:
1	1mm² up to 300 mm²
2	1mm² up to 120 mm²
3 / (2+E)	1mm² up to 185 mm²
4 - 37	1mm² up to 2,5 mm²

Application/Limitation

General power and lighting. Control.

The following applies to SC and SA type cables only:

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

The following applies to SC type cables only:

Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-1; CT07-0892-2; CT07-1236-6; CT12-3803-1; CT12-3803-2; CT07-1236-4; CT07-1236-5; CT07-1236-3; CT07-1236-1 TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	

Standard	Release	General description	Limitation
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22*	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

*SC and SA type only
**SC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CJPF86/SC - 0,6/1kV - size - IEC 60332-3-22* - Lot no.

*SC and SA type only

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002KV
Revision No:
1

This is to certify:

That the Electric Power Cable

with type designation(s)
CJPJ85/NC, CJPJ95/NC, CJPF86/NC, CJPF96/NC, CJV82/NA, CJV92/NA

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (kV)	**0,6/1**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

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Product description

Type: CJPJ85/NC, CJPJ95/NC, CJPF86/NC, CJPF96/NC, CJV82/NA, CJV92/NA

Conductor:	Tinned stranded copper
Insulation:	Mica tape + XLPE
Inner sheath:	PF - SHF1 PJ - SHF2 V - PVC ST2
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

No. of cores:	Cross-sectional area:
1	1mm² up to 300 mm²
2	1mm² up to 120 mm²
3 / (2+E)	1mm² up to 185 mm²
4 - 37	1mm² up to 2,5 mm²

Application/Limitation

General power and lighting. Control.

This type of cable is fire resistant in accordance with IEC Publication 60331.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Fire resistant. Flame retardant Cat. A.

The following applies to NC type cables only:

Fire resistant. Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-1; CT07-0892-2; CT07-1236-6; CT12-3803-1; CT12-3803-2; CT07-1236-4; CT07-1236-5; CT07-1236-3; CT07-1236-1; TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	

Standard	Release	General description	Limitation
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60331-1	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-21	1999-04	Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

** NC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CJPF86/NC - 0,6/1kV - size - IEC 60332-3-22 - IEC 60331-1/2/21 - Lot no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.
END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002N9
Revision No:
1

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJ85/SC, CHJP85/SC, CHJ86/SC, CHJP86/SC

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (V)	**150/250**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

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Product description

Type: CHJ85/SC, CHJP85/SC, CHJ86/SC, CHJP86/SC

Conductor:	Tinned stranded copper
Insulation:	XLPE
Screen:	P - pair core copper shield
Armour / braid:	8 - tinned copper wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1)

No. of cores:	Cross-sectional area:
1 x 2 to 48 x 2	0,75 - 2,5 mm²
1 x 3 to 48 x 3	1,0 - 1,5 mm²

Application/Limitation

Control and instrumentation.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-3; CT12-3803-1; CT12-3803-2; CT07-1236-3; CT07-1236-4; TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2017-05	Cables for control and instrumentation circuits 150/250 V (300 V)	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm

Standard	Release	General description	Limitation
IEC 60684-2	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CHJ86/SC - 150/250V - size - IEC 60332-3-22 - Lot no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002N8
Revision No:
1

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJ85/NC, CHJP85/NC, CHJ86/NC, CHJP86/NC

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (V)	**150/250**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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 300,000 USD.

Product description

Type: CHJ85/NC, CHJP85/NC, CHJ86/NC, CHJP86/NC

Conductor:	Tinned stranded copper
Insulation:	Mica tape + XLPE
Screen:	P - pair core copper shield
Armour / braid:	8 - tinned copper wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1)

No. of cores:	Cross-sectional area:
1 x 2 to 48 x 2	0,75 - 2,5 mm²
1 x 3 to 48 x 3	1,0 - 1,5 mm²

Application/Limitation

Control and instrumentation.

This type of cable is fire resistant in accordance with IEC Publication 60331.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Fire resistant. Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-3; CT12-3803-1; CT12-3803-2; CT07-1236-3; CT07-1236-4; TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2017-05	Cables for control and instrumentation circuits 150/250 V (300 V)	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60331-1	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	

Standard	Release	General description	Limitation
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-21	1999-04	Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60754-1	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CHJ86/NC - 150/250V - size - IEC 60332-3-22 - IEC 60331-1/2/21 - Lot no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002N6
Revision No:
1

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJPJ85/SC, CHJPJ95/SC, CHJPJP85/SC, CHJPJP95/SC, CHJPF86/SC, CHJPF96/SC, CHJPFP86/SC, CHJPFP96/SC, CHJVP82/DA/SA, CHJVP92/DA/SA, CKJPJ85/SC, CKJPJ95/SC, CKJPF86/SC, CKJPF96/SC,

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (V)	**150/250**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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 300,000 USD.

Product description

Type: CHJPJ85/SC, CHJPJ95/SC, CHJPJP85/SC, CHJPJP95/SC, CHJPF86/SC, CHJPF96/SC, CHJPFP86/SC, CHJPFP96/SC, CHJVP82/DA/SA, CHJVP92/DA/SA, CKJPJ85/SC, CKJPJ95/SC, CKJPF86/SC, CKJPF96/SC,

Conductor:	Tinned stranded copper
Insulation:	XLPE
Screen:	P - pair core copper shield
Inner sheath:	PF - SHF1 PJ - SHF2 V - PVC ST2
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

CH… cable types:

No. of cores:	Cross-sectional area:
1 x 2 to 48 x 2	0,75 - 2,5 mm²
1 x 3 to 48 x 3	1,0 - 1,5 mm²

CK… cable types:

No. of cores:	Cross-sectional area:
2	0,75 - 2,5 mm²
3 / (2+E)	0,75 - 2,5 mm²
4 - 37	0,75 - 2,5 mm²

Application/Limitation

Control and instrumentation.

The following applies to SC and SA type cables only:

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

The following applies to SC type cables only:

Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-3; CT12-3803-1; CT12-3803-2; CT07-1236-2; CT07-1236-3; CT07-1236-4; CT07-1236-5;
TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2017-05	Cables for control and instrumentation circuits 150/250 V (300 V)	

Standard	Release	General description	Limitation
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22*	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

*SC and SA type only
**SC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CHJPF86/SC - 150/250V – size - IEC 60332-3-22* - LOT number

*SC and SA type only

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002N5
Revision No:
1

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJPJ85/NC, CHJPJ95/NC, CHJPJP85/NC, CHJPJP95/NC, CHJPF86/NC, CHJPF96/NC, CHJPFP86/NC, CHJPFP96/NC, CHJVP82/NA, CHJVP92/NA, CKJPJ85/NC, CKJPJ95/NC, CKJPF86/NC, CKJPF96/NC

Issued to
Jiangsu Honest Cable Co., Ltd
Yangzhou, **China**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (V)	**150/250**
Temp. class (°C)	**90**

Issued at **Høvik** on **2023-04-18**

for **DNV**

This Certificate is valid until **2028-04-17**.
DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

Frederik Tore Elter
Head of Section

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The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-026691-2**
Certificate No: **TAE00002N5**
Revision No: **1**

Product description

Type: CHJPJ85/NC, CHJPJ95/NC, CHJPJP85/NC, CHJPJP95/NC, CHJPF86/NC, CHJPF96/NC, CHJPFP86/NC, CHJPFP96/NC, CHJVP82/NA, CHJVP92/NA, CKJPJ85/NC, CKJPJ95/NC, CKJPF86/NC, CKJPF96/NC

Conductor:	Tinned stranded copper
Insulation:	Mica tape + XLPE
Screen:	P - pair core copper shield
Inner sheath:	PF - SHF1 PJ - SHF2 V - PVC ST2
Armour / braid:	8 - tinned copper wire braid 9 - galvanized steel wire braid
Outer sheath:	5 - cross-linked polyolefin (SHF2) 6 - thermoplastic polyolefin (SHF1) 2 - PVC ST2

No. of cores:	Cross-sectional area:
1 x 2 to 48 x 2	0,75 - 2,5 mm²
1 x 3 to 48 x 3	1,0 - 1,5 mm²

Application/Limitation

Control and instrumentation.

This type of cable is fire resistant in accordance with IEC Publication 60331.

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Fire resistant. Flame retardant Cat. A.

The following applies to NC type cables only:

Fire resistant. Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheet: Jiangsu Honest Cable Co., Ltd

Test report: CT07-0892-3; CT12-3803-1; CT12-3803-2; CT07-1236-3; CT07-1236-4; TN19-1050E; TN19-01051E; TN21-1623E; TN21-1626E; TN21-1624E;

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2017-05	Cables for control and instrumentation circuits 150/250 V (300 V)	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	

Standard	Release	General description	Limitation
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60331-1	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60331-21	1999-04	Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60754-1**	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2**	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2**	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2**	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

** NC type only

Marking of product

Example:

Jiangsu Honest Cable Co., Ltd - CHJPF86/NC - 150/250V - size - IEC 60332-3-22 - IEC 60331-1/2/21 - Lot no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.
END OF CERTIFICATE