# **Precautions against Fire in Cable Installations**

## **Object of Amendment**

Rules for the Survey and Construction of Steel Ships Part H Guidance for the Survey and Construction of Steel Ships Part H Guidance for the Survey and Construction of Passenger Ships

#### **Reason for Amendment**

Regulation II-1/45.5.3 of SOLAS stipulates that cables for important equipment should be placed as far away as possible from "other high fire risk areas" in order to avoid damage to cables by fire. IACS Unified Interpretation (UI) SC11 specifies an interpretation of the "other high fire risk areas" in this regulation of the SOLAS. IACS Unified Requirement (UR) E15 stipulates requirements for electrical equipment and fire-resistant cables that must be available in the event of fire. The Society has already incorporated this UI and this UR into relevant requirements.

Although the current UI SC11 refers to regulation II-2/9 of SOLAS regarding "other high fire risk areas", regulation 9 includes various areas for each type of ship and low fire risk areas. Hence, the interpretation of "other high fire risk areas" was unclear.

Therefore, IACS revised UI SC11 to clarify interpretation of "other high fire risk areas". At the same time, the definition of "high fire risk areas" stipulated in UR E15 related to the UI was also revised. IACS adopted these revisions respectively as UI SC11(Rev.2) in November 2024 and UR E15(Rev.5) in [January 2025].

Accordingly, relevant requirements are amended in accordance with UI SC11(Rev.2) and UR E15(Rev.5). In addition, part of the requirements for cable penetration are revised to align with other requirements.

### **Outline of Amendment**

Clarify requirements of cable installation to avoid damage to cables by fire.

### **Effective Date and Application**

This draft amendment applies to ships for which the date of contract for construction is on or after 1 January 2026.

An asterisk (\*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

ID:DD24-30

	parison Table (Precautions against Fire in Cable Installa	
Amended	Original	Remarks
RULES FOR THE SURVEY AND	RULES FOR THE SURVEY AND	
CONSTRUCTION OF STEEL SHIPS	CONSTRUCTION OF STEEL SHIPS	
Part HELECTRICAL INSTALLATIONS	Part HELECTRICAL INSTALLATIONS	
Chapter 2 ELECTRICAL INSTALLATIONS AND SYSTEM DESIGN	Chapter 2 ELECTRICAL INSTALLATIONS AND SYSTEM DESIGN	
2.9 Cables	2.9 Cables	
2.9.11 Precaution against Fire*	2.9.11 Precaution against Fire*	
1 (Omitted)	1 (Omitted)	
2 All cables for power, lighting, internal	2 All cables for power, lighting, internal	
communications, signals and navigational aids of essential	communications, signals and navigational aids of essential	
and emergency services are to be, as far as practicable,	and emergency services are to be, as far as practicable,	
routed clear of galleys, laundries, machinery spaces of	routed clear of high fire risk areas and casings of all	Regulation II-1/45.5.3
category A and their casings, and other high fire risk areas. In	machinery spaces of category A. In addition, cables	of SOLAS
addition, cables connecting fire pumps to emergency	connecting fire pumps to emergency switchboards are to be	
switchboards are to be fire resistant types complying with	fire resistant types complying with standards deemed	
standards deemed appropriate by the Society in cases where	appropriate by the Society in cases where they pass through	
they pass through high fire risk areas. All such cables are to	high fire risk areas. All such cables are to be, as far as	
be, as far as practicable, run in such a manner as to preclude	practicable, run in such a manner as to preclude their being	
their being rendered unserviceable by any heating of	rendered unserviceable by any heating of bulkheads that may	
bulkheads that may be caused by fires in adjacent spaces.	be caused by fires in adjacent spaces.	
3 (Omitted)	3 (Omitted)	
4 Where cables for services specified in -3 above	4 Where cables for services specified in -3 above	
including their power supplies pass through high fire risk	including their power supplies pass through high fire risk	
areas, they are to be so arranged that a fire in any of these	areas, they are to be so arranged that a fire in any of these	
areas or zones does not affect the operation of the service in	areas or zones does not affect the operation of the service in	

	parison Table (Precautions against Fire in Cable Installa	,
Amended	Original	Remarks
any other area or zone. This may be achieved by either of the	any other area or zone. This may be achieved by either of the	
following measures:	following measures:	
(1) Cables being of a fire resistant type complying with	(1) Cables being of a fire resistant type complying with	
IEC 60331-1:2018 for cables of greater than 20 mm	IEC 60331-1:2018 for cables of greater than 20 mm	
overall diameter, otherwise <i>IEC</i> 60331-2:2018 for	overall diameter, otherwise <u>IEC</u>	IID E15(D 5) E15 2 a)
cables with an overall diameter not exceeding 20	60331-21:1999+AMD1:2009 or <i>IEC</i> 60331-2:2018	UR E15(Rev.5) E15 2 a) The sentence "IEC
<i>mm</i> , are installed and run continuous to keep the fire	for cables with an overall diameter not exceeding 20	60331-21:1999+AMD1
integrity within the high fire risk area (see Fig.	mm, are installed and run continuous to keep the fire	:2009 or" is deleted,
H2.2).	integrity within the high fire risk area (see Fig.	because IEC 60331-2:
	H2.2).	2018 contains IEC
(2) At least two-loops/radial distributions run as widely	(2) At least two-loops/radial distributions run as widely	60331-21:1999+
apart as is practicable and so arranged that in the	apart as is practicable and so arranged that in the	AMD1:2009
event of damage by fire at least one of the	event of damage by fire at least one of the	
loops/radial distributions remains operational.	loops/radial distributions remains operational.	
(3) (Omitted)	(3) (Omitted)	
(4) (Omitted)	(4) (Omitted)	
5 (Omitted)	5 (Omitted)	
6 The definition for "high fire risk areas" in case of -4	6 The definition for "high fire risk areas" in case of -4	
and -5 above is at a minimum to be considered as the	and -5 above is the following:	UR E15(Rev.5) E15 3
following:		Notes:1)(i)
(1) Machinery spaces as defined by 3.2.30, Part R,	(1) Machinery spaces as defined by 3.2.30, Part R,	
except spaces having little or no fire risk as defined	except spaces having little or no fire risk as defined	
by paragraphs (10) of Regulation 9.2.2.3.2.2 of	by paragraphs (10) of Regulation 9.2.2.3.2.2 of	
SOLAS Chapter II-2. (Including the interpretations	SOLAS Chapter II-2. (Including the interpretations	
for tables 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 given in	for tables 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 given in	
MSC/Circ.1120 as amended by MSC.1/Circ.1436	MSC/Circ.1120 as amended by MSC.1/Circ.1436	
and MSC.1/Circ.1510)	and MSC.1/Circ.1510)	T1 41 1:65
Spaces having little or no fire risk as defined by	(Newly added)	To clear the difference Regulation II-2/
paragraphs (10) of Regulation 9.2.2.3.2.2 of SOLAS		9.2.2.3.2.2 (10) of
Chapter II-2 is follows.		SOLAS with Table
(a) Water tanks forming part of the ship's structure		9.2.3.1, contents of
(b) Voids and cofferdams (c) Auxiliary machinery spaces which do not		Regulation II-2/
(c) Auxiliary machinery spaces which do not		9.2.2.3.2.2 (10) of

	Darison Table (Precautions against Fire in Cable Installa	
Amended	Original	Remarks
contain machinery having a pressure lubrication		SOLAS is added.
system and where storage of combustibles is		
prohibited, such as:		
i) ventilation and air-conditioning rooms;		
ii) windlass room;		
iii) steering gear room;		
iv) stabilizer equipment room;		
v) electrical propulsion motor room;		
vi) rooms containing section switchboards and		
purely electrical equipment other than		
oil-filled electrical transformers (above 10		
<u>kVA);</u>		
vii) shaft alleys and pipe tunnels;		
viii) spaces for pumps and refrigeration		
machinery (not handling or using		
flammable liquids).		
(d) Closed trunks serving the spaces listed in (c)		
above.		
(e) Other closed trunks such as pipe and cable		
trunks.		
(2) Spaces containing fuel treatment equipment and	(2) Spaces containing fuel treatment equipment and	
other highly flammable substances	other highly flammable substances	
(3) Galley and Pantries containing cooking appliances	(3) Galley and Pantries containing cooking appliances	
(4) Laundry containing drying equipment	(4) Laundry containing drying equipment	
(5) Spaces assigned fire risk categories as follows:	(5) Spaces as defined by paragraphs (8), (12), and (14)	UR E15(Rev.5)3 Notes
	of Regulation 9.2.2.3.2.2 of SOLAS Chapter II-2	1)(v)
(a) For cargo ships except tankers, categories (9)	(Newly added)	Definition of "high fire
and (11) of Regulation 9.2.3.3.2.2 of SOLAS	(Tiewiy added)	risk areas" for tanker
Chapter II-2; and,		and cargo ship except
(b) For tankers, categories (8) and (9) of Regulation		tanker
9.2.4.2.2.2 of SOLAS Chapter II-2.		
(6) The definition of "other high fire risk areas" in <i>IACS</i>		
UI SC11, as amended, is to be considered.		
of Sc11, as afficiaced, is to be considered.		l

Amended	Original	Remarks
9 Interconnecting cables between generators and main	(Newly added)	Clarify treatment of
switchboards are to be routed clear of fuel oil purifier		Interconnecting cables
spaces, above other engines driving generators and fuel oil		between generators and
purifiers except in any of the following (1) to (3):		main switchboards.
(1) Cables connected to multiple generators or main		
switchboards which are separated into at least two		
groups throughout their length as far apart as		
<u>practicable;</u>		
(2) Fire resistant cables which comply with the		
standards deemed appropriate by the Society; or		
(3) Cables protected by fire prevention measures		
deemed appropriate by the Society.		

Amended	Original	Remarks
GUIDANCE FOR THE SURVEY AND	GUIDANCE FOR THE SURVEY AND	
CONSTRUCTION OF STEEL SHIPS	CONSTRUCTION OF STEEL SHIPS	
CONSTRUCTION OF STEEL SHIPS	CONSTRUCTION OF STEEL SHIPS	
Part H ELECTRICAL INSTALLATIONS	Part HELECTRICAL INSTALLATIONS	
H2 ELECTRICAL INSTALLATIONS AND	H2 ELECTRICAL INSTALLATIONS AND	
SYSTEM DESIGN	SYSTEM DESIGN	
H2.9 Cables	H2.9 Cables	
H2.9.11 Precaution against Fire	H2.9.11 Precaution against Fire	
1 (Omitted)	1 (Omitted)	
2 (Omitted)	2 (Omitted)	
<b>3</b> (Omitted)	3 (Omitted)	
4 (Omitted)	4 (Omitted)	
5 The following (1) to (4) spaces are to be as a	(Newly added)	UI SC11 (Rev.2)
minimum considered as "other high fire risk areas" specified		Definition of "other high fire risk areas"
in 2.9.11-2, Part H of the Rules.		fire risk areas
(1) cargo spaces except cargo tanks for liquids with		
flashpoint above 60°C and except cargo spaces exempted in accordance with SOLAS regulations		
II-2/10.7.1.2 or II-2/10.7.1.4;		
(2) vehicle, ro-ro and special category spaces;		
(3) spaces containing flammable liquids; and		
(4) pantries containing cooking appliances.		
6 In cases where cable is installed in "galleys,	(Newly added)	Clarify treatment of
laundries, machinery spaces of category A and their casings,		cable which is installed
and other high fire risk areas" specified in 2.9.11-2, Part H		in high fire risk areas
of the Rules, it may be achieved by either of the measures		

Amended	Original	Remarks
specified in 2.9.11-4, Part H of the Rules.  7 The wording "standards deemed appropriate by the Society" in 2.9.11-9(2), Part H of the Rules means the current standards of the <i>IEC</i> as listed below:  (1) <i>IEC</i> 60331-1 for cables whose overall diameters exceed 20 mm; and  (2) <i>IEC</i> 60331-2 for cables whose overall diameters do	(Newly added)	Clarify "standards deemed appropriate by the Society" in 2.9.11-9(2), Part H of the Rules
not exceed 20 mm.  8 The wording "fire protection arrangements as considered appropriate by the Society" in 2.9.11-9(3), Part H of the Rules means, for example, cables are to be laid within insulated steel pipes or steel ducts whose fire protection is equivalent to A-60 or more.	(Newly added)	Clarify "fire protection arrangements as considered appropriate by the Society" in 2.9.11-9(3), Part H of the Rules

Amended  Amended	Original	Remarks
GUIDANCE FOR THE SURVEY AND	GUIDANCE FOR THE SURVEY AND	TOMAN
CONSTRUCTION OF PASSENGER SHIPS	CONSTRUCTION OF PASSENGER SHIPS	
CONSTRUCTION OF TRISSENGER SITTS	CONSTRUCTION OF TROSENGER SITTS	
Part 6 ELECTRICAL INSTALLATIONS	Part 6 ELECTRICAL INSTALLATIONS	
Chapter 1 GENERAL	Chapter 1 GENERAL	
Chapter 1 GENERAL	Chapter 1 GENERAL	
1.1 General	1.1 General	
1.1 General	1.1 General	
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1.1.1 Scope	1.1.1 Scope	
1 In accordance with 1.1.1-3, Part 6 of the Rules,	In accordance with 1.1.1-3, Part 6 of the Rules,	
requirements in 2.9.11-2, Part H of the Rules for the	requirements in 2.9.11-2, Part H of the Rules for the	
Survey and Construction of Steel Ships are to be arranged	Survey and Construction of Steel Ships are to be arranged	
as follows:	as follows:	
(1) The wording "high fire risk areas" defined in	(1) The wording "high fire risk areas" defined in	
H2.9.11-6, Part H of the Rules for the Survey and	H2.9.11-5, Part H of the Guidance for the Survey	Reference number
Construction of Steel Ships includes main vertical zones.	and Construction of Steel Ships includes main vertical zones.	correction
(2) Where ships are carrying more than 36 passengers,	(2) Where ships are carrying more than 36 passengers,	
the "high fire risk areas" defined in <b>H2.9.11-6</b> , <b>Part</b>	the "high fire risk areas" defined in H2.9.11-5, Part	Reference number
H of the Rules for the Survey and Construction of	H of the <u>Guidance</u> for the Survey and	correction
Steel Ships include the following spaces.	Construction of Steel Ships include the following	
steer simps merade the rone wing spaces.	spaces.	
(a) Auxiliary machinery spaces, cargo spaces, cargo	(a) Accommodation spaces of greater fire risk	UR E15(Rev.5)3 Notes
and other oil tanks and other similar spaces of	(Regulation 9.2.2.3.2.2( <u>8</u> ), Chapter II-2, <i>SOLAS</i>	1)(v)
moderate fire risk (Regulation 9.2.2.3.2.2(11),	Convention)	Definition of "high fire
Chapter II-2, SOLAS Convention)	,	risk areas" for passenger
(Deleted)	(b) Machinery spaces and main galleys (Regulation	ship
	9.2.2.3.2.2(12), Chapter II-2, SOLAS	

<u> </u>	iparison Table (Precautions against Fire in Cable Installa	
Amended	Original	Remarks
(b) Other spaces in which flammable liquids are stowed (Regulation 9.2.2.3.2.2(14), Chapter II-2, SOLAS Convention)  (3) Where ships are carrying not more than 36 passengers, the "high fire risk areas" defined in H2.9.11-6, Part H of the Rules for the Survey and Construction of Steel Ships include the following spaces.  (a) Service spaces (high risk) (Regulation 9.2.2.4.2.2(9), Chapter II-2, SOLAS Convention)  (b) Special category and ro-ro spaces (Regulation 9.2.2.4.2.2(11), Chapter II-2, SOLAS Convention)  2 In accordance with 1.1.1-3, Part 6 of the Rules, the machinery spaces specified in 2.9.11-6(1), Part H of the Rules for the Survey and Construction of Steel Ships are the following:  (1) Machinery spaces as defined by 3.2.30, Part R of the Rules for the Survey and Construction of Steel Ships, except spaces having little or no fire risk as defined by paragraphs (10) of Regulation 9.2.2.3.2.2 of SOLAS Chapter II-2. (Including the interpretations for tables 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 given in MSC/Circ.1120 as amended by MSC.1/Circ.1436 and MSC.1/Circ.1510)  Spaces having little or no fire risk as defined by paragraphs (10) of Regulation 9.2.2.3.2.2 of SOLAS Chapter II-2 are as follows.  (a) Water tanks forming part of the ship's structure	stowed (Regulation 9.2.2.3.2.2(14), Chapter II-2, SOLAS Convention) (Newly added)  (Newly added)  (Newly added)	Remarks  UR E15(Rev.5)3 Notes 1)(v) Definition of "high fire risk areas" for passenger ship  To clear the difference Regulation 9.2.2.3.2.2 (10) of SOLAS Chapter II-2 with Table 9.2.3.1, Regulation 9.2.2.3.2.2 (10) of SOLAS Chapter II-2 is added.
<ul><li>(b) Voids and cofferdams</li><li>(c) Auxiliary machinery spaces which do not</li></ul>		
(c) Allxillary machinery spaces which do no		

<u> </u>	mparison Table (Precautions against Fire in Cable Installa	
Amended	Original	Remarks
system and where storage of combustibles	$\frac{\mathrm{i} \mathrm{s}}{\mathrm{s}}$	
prohibited, such as:		
i) ventilation and air-conditioning rooms;		
ii) windlass room;		
iii) steering gear room;		
iv) stabilizer equipment room;		
v) electrical propulsion motor room;		
vi) rooms containing section switchboards ar	nd	
purely electrical equipment other that		
oil-filled electrical transformers (above 1		
kVA);		
vii) shaft alleys and pipe tunnels;		
viii) spaces for pumps and refrigeration	nn l	
machinery (not handling or using		
flammable liquids).	15	
(d) Closed trunks serving the spaces listed in (		
above.		
(e) Other closed trunks such as pipe and cab	le	
trunks.		
uunks.		
FFFCTIVE DAT	E AND APPLICATION	
BITETIVE DIA	ETH OTH TEICHTION	
1. The effective date of the amendments is 1 January	2026.	
	ents, the current requirements apply to ships for which the date of	
contract for construction* is before the effective d	1 11 7 1	
	est version of IACS Procedural Requirement (PR) No.29.	
	(2 11) 1 (0 <b>2</b> ) (	
IACS PR No.2	29 (Rev.0, July 2009)	
1. The date of "contract for construction" of a vessel is the date on which the	contract to build the vessel is signed between the prospective owner and the shipbuilder. This date	
and the construction numbers (i.e. hull numbers) of all the vessels inclu	ded in the contract are to be declared to the classification society by the party applying for the	
assignment of class to a newbuilding.  2. The date of "contract for construction" of a series of vessels, including	specified optional vessels for which the option is ultimately exercised, is the date on which the	
contract to build the series is signed between the prospective owner and the	shipbuilder.	
For the purpose of this Procedural Requirement, vessels built under a s approved plans for classification purposes. However, vessels within a serie	ingle contract for construction are considered a "series of vessels" if they are built to the same is may have design alterations from the original design provided:	
(1) such alterations do not affect matters related to classification, or	, 0	

Amended Original		Remarks	
	alterations are contracted between the prospective owner and the shipbuil effect on the date on which the alterations are submitted to the Society for	tions are to comply with the classification requirements in effect on the date on which the lder or, in the absence of the alteration contract, comply with the classification requirements in approval.  option is exercised not later than 1 year after the contract to build the series was signed.	
3.	If a contract for construction is later amended to include additional vessels or a	additional options, the date of "contract for construction" for such vessels is the date on which he shipbuilder. The amendment to the contract is to be considered as a "new contract" to which	
4.	If a contract for construction is amended to change the ship type, the date of contract or new contract is signed between the Owner, or Owners, and the shiple	f "contract for construction" of this modified vessel, or vessels, is the date on which revised builder.	

