

**TYPE APPROVAL CERTIFICATE**  
No. MAC013909CS

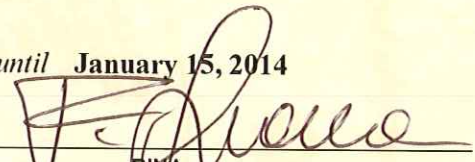


**This is to certify** that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>Plastic pipes and fittings</b>
<i>Type</i>	<b>HTA System</b>
<i>Applicant</i>	<b>GIRPI RUE ROBERT ANCEL BP36 F76700 HARFLEUR FRANCE</b>
<i>Manufacturer</i>	<b>GIRPI</b>
<i>Place of manufacture</i>	<b>RUE ROBERT ANCEL BP36 F76700 HARFLEUR FRANCE</b>
<i>Reference standards</i>	<b>Part C, Chapter 1 Appendix 3 of RINA Rules</b>

Issued in **Genoa** on **January 16, 2009**. This Certificate is valid until **January 15, 2014**



  
RINA  
**Francesco Sciacca**

This Certificate consists of this page and 1 enclosure.  
This Certificate cancels and replaces the previous N° MAC/25301/1/TO/01 dated 24.05.2001.

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HTA System

**Reference documents**

GIRPI Technical Documentation, Ed. 2008.

**Material**

Chlorinated Polyvinyl Chloride (C-PVC) thermoplastic polymer.

**Technical characteristics**

Joining technique: cold welding

Size range:

Outer Pipe Diameter (mm)	Minimum Thickness (mm)	
	PN 25	PN 16
16	1.8	-
20	2.3	-
25	2.8	-
32	3.6	2.4
40	4.5	3.0
50	5.6	3.7
63	7.1	4.7
75	-	5.5
90	-	6.6
110	-	8.1
125	-	9.2
160	-	11.8

Temperature range: 0°C up to 80°C

For temperatures higher than 20°C the maximum allowable working pressure is to be reduced according to the Manufacturer's specifications.

**Fields of application**

HTA pipes and fittings are approved for the use on non essential systems and for locations where no fire endurance test is required in accordance with Appendix 3, Ch 1, Pt C of RINA Rules.

The a.m. products are acceptable on open decks, within tanks, cofferdams, pipe tunnels, ducts and further locations where flame spread is required according to Par 2.3.2, Appendix 3, Ch 1, Pt C of RINA Rules.



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**HTA System**

**Acceptance conditions**

Plastic pipes and fittings are to be permanently marked with identification in compliance with Par 2.1.2, Appendix 3, Ch 1, Pt C of RINA Rules.

The arrangement and installation of the plastic pipes on board is to be made in accordance with Manufacturer's instructions and with Par 3, Appendix 3, Ch 1, Pt C of RINA Rules.

The workshop tests and testing after installation on board are to be carried out in compliance with Par 4.2 and 4.3, Appendix 3, Ch 1, Pt C of RINA Rules.

**Remarks**

The installation on board ships built according to the "Rules for the construction and classification of high speed crafts" of RINA is subject to the satisfactory outcome of the tests foreseen by IMO Resolution A.753(18).

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Genoa January 16, 2009

