

ECE TYPE-APPROVAL CERTIFICATE

Communication concerning approval extended
of a type of CNG component pursuant to
Regulation No. 110.



Approval No: **E24 110R-000039**

Extension No: **02.**

Reason(s) for extension:

Adding new measures I.D. 5mm and O.D. 10.5mm.

1. CNG component considered:
~~Container(s) or cylinder(s)~~
~~Pressure indicator~~
~~Pressure relief valve~~
~~Automatic valve~~
~~Excess flow valve~~
~~Gas tight housing~~
~~Pressure regulator(s)~~
~~Non return valve(s)~~
~~Pressure relief device~~
~~Manual valve~~
 Flexible fuel lines:
~~Filling unit or receptacle~~
~~Gas injector(s)~~
~~Gas flow adjuster~~
~~Gas/air mixer~~
~~Electronic control unit:~~
~~Pressure and temperature sensor~~
~~CNG filter(s)~~

Type: TU-GAS C**

2. Trade name or mark:

THUNDERFLEX, CIDAT

3. Manufacturer's name and address:

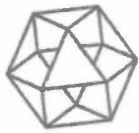
***SC THUNDERFLEX SRL,
Str. Vladeasa, nr. 43 B,
405400 Huedin, (CG),
Romania.***

4. If applicable, name and address of manufacturer's representative:

N/A.

5. Submitted for approval on:

***As before and 07.08.2014 –
17.02.2015***



NSAI
Certification

Approval No: **E24 110R-000039**

Extension No: **02.**

6. Technical service responsible for conducting approval tests:

**CSI S.p.A.,
V.le Lombardia, 20,
20021 Bollate (MI),
Italy.**

7. Date of report issued by that service:

As before and 02.03.2015

8. No. of report issued by that service:

Former:

0003\ISP\OML\12

New:

0181\ISP\OML\12

0008\ISP\OMLS\15

9. Approval ~~granted/ refused/ extended/ withdrawn:~~

Extended.

10. Reason(s) of extension (if Applicable):

**Adding new measures I.D. 5mm
and O.D. 10.5mm.**

11. Place:

Dublin.

12. Date:

14th May, 2015.

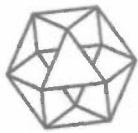
13. Signature:



14. The documents filed with the application or extension of approval can be obtained upon request:

Documentation:

9 pages.



NSAI
Certification

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Annex 2B – Addendum

1. Additional information concerning the type approval of a type of CNG components pursuant to Regulation No. 110

1.1 Container(s) or cylinder(s)	
1.1.1 Dimensions:	<i>N/A</i>
1.1.2 Material:	<i>N/A</i>
1.2 Pressure indicator	
1.2.1 Working pressure(s):	<i>N/A</i>
1.2.2 Material:	<i>N/A</i>
1.3 Pressure relief valve (discharge valve)	
1.3.1 Working pressure(s):	<i>N/A</i>
1.3.2 Material:	<i>N/A</i>
1.4 Automatic valve(s)	
1.4.1 Working pressure(s):	<i>N/A</i>
1.4.2 Material:	<i>N/A</i>
1.5 Excess flow valve	
1.5.1 Working pressure(s):	<i>N/A</i>
1.5.2 Material:	<i>N/A</i>
1.6 Gas tight housing	
1.6.1 Working pressure(s):	<i>N/A</i>
1.6.2 Material:	<i>N/A</i>
1.7 Pressure regulator(s)	
1.7.1 Working pressure(s):	<i>N/A</i>
1.7.2 Material:	<i>N/A</i>
1.8 Non-return valve(s) or non-return valve(s)	
1.8.1 Working pressure(s):	<i>N/A</i>
1.8.2 Material:	<i>N/A</i>
1.9 Pressure relief device (temperature triggered)	
1.9.1 Working pressure(s):	<i>N/A</i>
1.9.2 Material:	<i>N/A</i>

Annex 2B – Addendum

1.10	Manual valve	
1.10.1	Working pressure(s):	<i>N/A</i>
1.10.2	Material:	<i>N/A</i>
1.11	Flexible fuel lines	
1.11.1	Working pressure(s):	450 kPa
1.11.2	Material:	Inner: NBR rubber, type: COM SOTT.72 (3572) Outer: CSM rubber type: COPR 67 (2167)
1.12	Filling unit or receptacle	
1.12.1	Working pressure(s):	<i>N/A</i>
1.12.2	Material:	<i>N/A</i>
1.13	Gas injector(s):	
1.13.1	Working pressure(s):	<i>N/A</i>
1.13.2	Material:	<i>N/A</i>
1.14	Gas flow adjuster	
1.14.1	Working pressure(s):	
1.14.2	Material:	
1.15	Gas/air mixer	
1.15.1	Working pressure(s):	<i>N/A</i>
1.15.2	Material:	<i>N/A</i>
1.16.	Electronic control unit (CNG-fuelling)	
1.16.1	Basic software principles:	<i>N/A</i>
1.17	Pressure and temperature sensor(s):	
1.17.1	Working pressure(s):	<i>N/A</i>
1.17.2	Material:	<i>N/A</i>
1.18	CNG filter(s)	
1.18.1	Working pressure(s):	<i>N/A</i>
1.18.2	Material:	<i>N/A</i>



NSAI
Certification

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Index to the Information Package

- Date of issue: ***16th February, 2012.***
- Date of latest amendment: ***14th May, 2015.***
- Reason for extension/revision: ***Adding new measures (see attached document)***
-
1. Additional conditions, and advisory notes on legal alternatives.
-
2. Test report(s)
- numbers(s):
Former: ***0003\ISP\OML\12***
0181\ISP\OML\12
New: ***0008\ISP\OMLS\15***
 - date of issue: ***24.01.2012***
 - date of latest amendment: ***02.03.2015***
-
3. Information document
- number(s): ***N/A***
 - date of issue: ***N/A***
 - date of latest amendment: ***N/A***
- Documentation: ***9 pages***

Appendix: Additional conditions, and advisory notes on legal alternatives

A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each type from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.



www.thunderflex.ro

S.C. THUNDERFLEX S.R.L.

Str. Vlădeasa nr. 43B
405400 Huedin (CJ), România

Certified Management System
EN ISO 9001:2008
Cert. Reg. No 20 100 112005932



Pg. 1/1

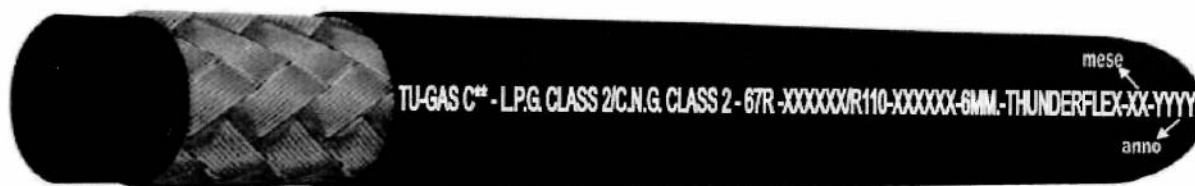
APPLICATION FOR EXTENSION OF OMOLOGATION OF ECE APPROVAL
N.r E24 110R 000039 and N.r E24 67R 010017

INTRODUCTION

Extension is required for adding new measures (see table n. 1)

TECHNICAL DATA

Manufacturer: SC THUNDERFLEX SRL
Trade mark: THUNDERFLEX; CIDAT
Type: TU-GAS C**
Design Temperature: -25°C ÷ 125°C
Working Temperature: -25°C ÷ 120°C
Inner tube : Black, smooth insulating, LPG and CNG permeation resistant NBR rubber compound. COMM SOTT. 72 (3572)
Reinforcement: One high tensile textile braid polyester.
Cover: Black, smooth insulating, CSM rubber compound resistant to ageing, heat, abrasion, ozone and weathering. COPR 67(2167)
Tolerances: According to ISO 1307/97



HOSE	I.D. [mm]	O.D. [mm]	WP [bar]	BP [bar]
67R-110R HOSE TYPE TU - GAS - C**	4	10	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	5	10.5	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	6.3	13	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	10	17	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	12	19	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	14	22	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	16	24	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	16,5	24,5	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	17	24	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	19	27	4,5	18
67R-110R HOSE TYPE TU - GAS - C**	25	34	4,5	18

BANK: INTESA SANPAOLO BANK ROMANIA SA
SWIFT: WBANRO22XXX
IBAN (Euro): RO25WBAN2511022013501493
VAT ID No.: RO18995579
Commerce Reg. N.r.: J12 / 2947 / 2006
Social Capital.: 2.100.000 EUR

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E24 110R-000039 Extn02