

DATE:	2021-12-21
TO:	ALFAGOMMA INDUSTRIAL S.P.A
ATTN:	Mr Quinto Piccioni
E-MAIL ADDRESS:	<a href="mailto:Quinto.Piccioni@alfagomma.com">Quinto.Piccioni@alfagomma.com</a>
YOUR REF.:	HOSE FOR PLG APPLICATION
FROM:	Anders Aalund
OUR REF.:	1308959 rev. C
INIT.:	ANDAAL/VIRO/LHPE <i>AB</i>
FILE No.:	1308952 (TC ID)
COPIED TO:	

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CVR No. 89832314

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**HOSE TYPE EXAMINATION IN ACCORDANCE WITH EN 16436-1:2014+A3  
ALFAGOMMA INDUSTRIAL S.P.A  
HOSE "088AI EN"  
TYPE EXAMINATION / DESIGN VERIFICATION TESTING**

We have reviewed the design according to received documentation listed below in order to verify that:

ALFAGOMMA HOSE 088AI *EN* as listed complies with EN 16436-1:2014, Design Verification Testing  
DNV Scope of work is based on principles in DNV ISI-VER-014 (Type approval, Oil and Gas)

Updates to previous version are given in *Italic* font.

**1. Design conditions:**

Hose type: Flexible hose, 088AI, 8 mm, 10 bar

Type 088AI EN

Class as per EN 16436-1: 2

Hose I.D.: 8 mm

Wall thickness: 3,5 mm

Max working pressure: 10 bar (150 PSI)

Burst pressure at 23°C: 30 bar

Bust pressure at 70°C: 25 bar

Temperature range: -30°C to +70°C (-22 °F to +158 °F)

Bend Radius: 80 mm

Test marking: Alfagomma Logo – 088EN PROPANE/BUTANE – 10 bar – 8mm –  
EN 16436-1 Class.2 – (Production date) – (Batch number)

**2. Reviewed documentation**

<u>Document no.</u>	<u>Rev. / Date</u>	<u>Title</u>
SRI01	00 / 2021-10-06	Inspection report, witness testing
TA401	2021-09-27	Type Approval Assessment Report
Tabella prove 088AI00815	2021-04-16	Test Plan
0881AI00815	1 / 2021-10-06	Test reports dossier
Application form	2021-09-27	Application form for Type Examination, Non-Class
<i>Data sheet 088AI EN</i>	<i>2021-11-18</i>	<i>Data sheet</i>

Please note that documentation not listed in the above is considered for information only.

**3. Conditions, Notes and Assumptions**

- 3.1 The specified product has undergone design verification testing as per EN 16436-1:2014 and has been witnessed by DNV with satisfactory results. Reference is made to listed DNV Inspection Report No. SRI01 issued by Mr Marco Ripamonti on the 6<sup>th</sup> of October 2021.
- 3.2 End connectors are not covered by this review and the hose assembly manufacturer shall select end connectors that are fit for purpose.
- 3.3 It is noted that physical product is marked as per sec. 9 of EN 16436-1: 2014
- 3.4 Validity of this type examination is based on local DNV station performing satisfactory periodical assessment at manufacturer once every year.
- 3.5 DNV shall be informed of any modifications to the product which are liable to affect product characteristics and functions, as originally specified and tested. This includes shifting of the production site. If, in such circumstances, notification is not made, the validity of the type examination letter terminates.

This Type Examination Letter is valid until: **2026-01-01**

Yours faithfully  
for DNV ENERGY SYSTEMS, DANMARK A/S

Lars Henning Pedersen  
Senior Principal Engineer  
Head of Section

Anders Aalund  
Engineer