

CERTIFICATE

TÜV NORD Systems GmbH & Co. KG

certifies that the company

**Lauing Heatec Co. Ltd.
Laemchabang Industrial Estate EPZ.2
49/21 Moo 5 Tungsukla, Sriracha
Chonburi - 20230, Thailand**

has been verified and recognized
as manufacturer of

**Tubes for heat exchanger
made of PFA Perfluorinated Thermoplastics
(VdTÜV-Werkstoffblatt 518)**

according to the rules of

AD 2000-Merkblatt HP 120R

Certificate-No.: 07/203/1409/HP/4381/19

The range of validity and details of the inspection can be taken from our

Report-No.: dated 25.10.2019/ SAP-No.: 811 767 2347

The company has established a product-related quality system
together with personnel and equipment which assures
manufacturing and testing corresponding to the technical rules.

This certificate is valid until

October 2022

Essen, 25.10.2019




Dirk Niekamp

TÜV NORD Systems GmbH & Co. KG,
Große Bahnstraße 31, D-22525 Hamburg

Profit Center: Conv. Power Plants
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CERTIFICATE

Quality-Assurance System for material manufacturer
according to Pressure Equipment Directive 2014/68/EU

Certificate no.: 07/202/1409/WZ/2393/19

Name and address
of the manufacturer: **Lauing Heatec Co. Ltd.**
Laemchabang Industrial Estate EPZ.2
49/21 Moo 5 Tungsukla, Sriracha
Chonburi - 20230, Thailand

Herewith we certify that the manufacturer has established and applies a **quality-assurance system related to the material**. This QA System has been subjected to a specific assessment acc. to directive 2014/68/EU, annex I, point 4.3 with regard to the materials mentioned in the scope of approval.

Approved acc. to directive 2014/68/EU: **QA-System in relation to materials, EN 764-5, section 4.2 and AD 2000 HP 120R**

Certification file no.: 811 767 2347

Audit report file no.: -

Scope of approval:
(product / material) Tubes for heat exchanger made of PFA Perfluorinated Thermoplastics (VdTÜV-Werkstoffblatt 518)

Production site: Laemchabang Industrial Estate EPZ.2, 49/21 Moo 5 Tungsukla, Sriracha, Chonburi - 20230, Thailand

The certificate is valid until: **October 2022**

Only valid in conjunction with a valid certificate acc. to EN ISO 9001.

Essen, 2019-10-25



Notified Body (0045)
for Pressure Equipment


Dipl.-Ing. (FH) Niekamp

TÜV NORD Systems GmbH & Co. KG,
Große Bahnstraße 31, D-22525 Hamburg

Annex: Scope of Approval

Conventional Power Plants
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Member of



CONFÉDÉRATION EUROPÉENNE D'ORGANISMES DE CONTRÔLE

Notifizierte Stelle 0045 / Notified Body 0045

Geltungsbereich der Überprüfung gemäß / Scope of Approval according to

- Richtlinie 2014/68/EU, Anhang I, Nummer 4.3 / Directive 2014/68/EU, Annex I, Point 4.3.
- AD 2000-Merkblatt HP120R / AD 2000-Merkblatt HP120R

Zertifikat-Nr. / Certificate No.: 07 202 1409 WZ 2393 19

Zertifikat-Nr. / Certificate No.:

Firma / Company: Lauing Heatec Co., Ltd.

Ort / Location: Laemchabang Industrial Estate EPZ.2, 49/21 Moo 5 Tungasukla, Sriracha, Chonburi 20230 Thailand


Niekamp



Datum / Date: 25.10.2019

AZ / File No.: ISEC-1076/19

SAP-No.: 811 767 2347

Nr. No.	Werkstoffbezeichnung Material designation	Spezifikation Specification	Lieferzustand* Delivery cond.*	Erzeugnisform Product type	Abmessungen Dimensions		Prüfgrundlagen Test specifications	Bemerkungen Remarks
					Dicke Thickness [mm]	Ø / Gewicht Ø / Weight [kg]		
1.	Perfluorinated thermoplast HT-62 HT-55 HT-49 HT-47 HT-46 HT-44 HT-41	VdTÜV- Werkstoffblatt 518	--	Seamless PFA pressure tube	Up to 1,5	max. diameter 16,0 mm.	AD 2000-Merkblatt HP120R and scope of VdTÜV-Material-Guidelines	If use in area of PED 2014/68/EU, PMA is required.

* +AT = Lösungsgeglüht / solution annealed, +N = normalgeglüht, normalisierend umgeformt / normalized forming, +U = unbehandelt / untreated, +NT = normalgeglüht und angelassen / normalized and tempered, +QT = vergütet / quenched and tempered, +M = thermomechanisch umgeformt / thermo mechanical formed, +AR = wie gewalzt / as rolled, +SR = spannungsarmgeglüht / stress relieved, +A = weichgeglüht / soft annealed, +CR = kaltgewalzt / cold rolled
(weitere Symbole / other symbols: EN 10027-1, Tab. 18)