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**Tanxperts Hungary Ue.**

**&**

**T.I.S. – Tank Inspection  
Services**

**Engineering provisions**

**Company overview**

**2012**



- TANXPERTS™ is a new and innovative initiation with it's focus on tanks and nothing but tanks. Our services cover not just the inspections and consultancy but to deliver sound and reliable results for the clients.
- TANXPERTS™ is a strategic international collaboration of two companies in Hungary and in The Netherlands, which started as a friendship between two highly trained engineers with mutual interest in tanks and with special and unique knowledge regarding the storage tank service capability.
  - Tanxperts Hungary Llc – Hungary
  - T.I.S. (Tank Inspection Services) – Holland



- The primary purpose of TANXPERTS™ to deliver our services to satisfy the various needs of the customers and to comply with the highest level of quality, safety and environmental rules, including the quality control planning and tank assessment as well.
- To comply with the market requirements and in order to achieve the highest standards, the members of the company continuously train themselves and participate the relevant courses to improve their skills, and knowledge.



- The company was founded the beginning of 2012 as a brand new company with main activity as such: technical inspection and assessment.
- As the managing director of Tanxperts Hungary Llc. intend specifically to expand the range of pursuit onto the engineering and technical assessment and/ or consultancy field.
- **Company Details – Tanxperts Hungary Llc:**
  - Tanxperts Hungary Llc.
  - Mr. Attila Dömötör      manager
  - Reg.no.#                      19-09-515238
  - EU tax no.#:                HU23900107
  - Address:                      15th, Óváros square,  
Veszprém, 8200, Hungary
  - Mobil:                        +36 302 355 521
  - E-mail:                        [attila.domotor@tanxperts.com](mailto:attila.domotor@tanxperts.com)



### **Mr. Attila Dömötör , manager - qualifications**

- 2002 – KF - GAMF – mechanical engineer, materiel technology & quality (7150/2002) – Kecskemét
- 2003 – KF - GAMF – quality expert (548/2003) – Kecskemét
- 2006 – EOQ MNB – Quality system manager (R1380/2006) – Budapest
- 2008 – EOQ MNB – Quality auditor (ISO 9001) (R1701/2008) – Budapest
- 2010 – TankAssessor™ Certificate of Competence in Assessment of Storage tanks to EEMUA 159 (10/02L1/95) – London, UK
- 2011 – NLTO– graduation of liquid flow meters discrepant from water (011/2011)
- 2011 – Storage tank qualification as per 11/1994. (III. 25.) IKM – (62A-3/2011;F-471/2001) – Budapest

### **Some important accomplishment**

- Quality management handbook :
  - 2002 - ISO/IEC 17025:2000 Árkovits and Sons Llc – Hungary
- Entire Quality sytem foundation:
  - 2004 – ISO 9001:2000 – Masa Mosodák Llc – Hungary
  - 2007 – ISO 9001:2000 – Autogard Holding Ltd. – UK
- Quality system maintenance:
  - 2011 – Fuel Quality Pool (IFQP, and JIG)
- Storage tank assessment:
  - 2009 – as per EEMUA 159 – TOP Dublin, Republic Of Ireland



- T.I.S. is a new innovative company with it's focus on Storage tanks. With the knowledge we gained in the past 10 years successfully concluding large numbers of assignments across the world, we are able to solve any problems regarding your Storage tanks with the latest technologies available on the market

- **Company Details - T.I.S.:**

- T.I.S. - Tank Inspection Services
- Mr Evert Martens manager
- IBAN: NL78RABO0115754377
- Swift: RABONL2U
- BTW: 151268721B02
- KvK: 52439240
- Address: Roerdomp 13, 4533EB  
Terneuzen (Netherlands)
- Mobil: +31 652 717 534
- E-mail: [evert.martens@tanxperts.com](mailto:evert.martens@tanxperts.com)



### **Mr Evert Martens, manager - qualifications**

- 1993 - Technical School, Electrical.
- 1997 - Technical High School. Mechanical engineer

### **Some important accomplishment**

- Auditor for storage tanks to EEMUA publ. no. 159:2003
- VCA-Vol, Safety for operational managers
- Inspection & Testing Engineer IKT2 to SKO (Dutch Accredited Certification Body)  
(This is a highly recommended inspection course of 2 years necessary to be able to work as an inspector in The Netherlands)
- Concrete Technology
- ASME code for Pressure Piping B31.3 Process Piping.
- API653 (in certification course till end of march 2012).



### **Some of the clients we worked for in the past:**

- DOW Benelux, Terneuzen - Assigned to DOW Terneuzen PPM inspection team and responsible for AST inspections on the LHC plants at DOW Terneuzen Incl. Condition based inspection AST's using on stream inspection techniques such as; Acoustic Emission, Long range ultrasonics, T-scan etc.
- Heros, Sluiskil - EEMUA 159; AST inspection & integrity assessment
- Van der Sluijs Tankstorage - EEMUA 159; AST inspection & integrity assessment at several depots; Roermond, Gent, Hengelo, Hasselt (B)
- Simon Storage, Bramhall - AST inspection & integrity assessment incl remaining service life evaluation several mounded storage tanks
- Total Refinery Antwerp - AST Inspection to EEMUA 159; and API 653 of several tanks at TRA site
- Total Refinery (Donges) - AST inspection & integrity assessment incl remaining service life. Projectleader.
- BP storage (Athens) - EEMUA 159; AST inspection & integrity assessment. Sunken floating roof evaluation. of 60m tank.
- Shell (Corrib, Ireland) - EEMUA 159; AST inspectie & integriteit assessment
- ETT Botlek Rotterdam - RBI acc. EEMUA 159
- MET Botlek Rotterdam - EEMUA 159; AST inspection & integrity assessment
- DISA Canary Islands - EEMUA 159; AST inspection & integrity assessment
- AFS Budapest - EEMUA 159; AST inspection & integrity assessment





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Oil and petrochemical industry feedstock and products have been stored in above-ground, vertical cylindrical tanks for many years. At first sight these tanks appear of simple design and construction with innocuous working environments. However, this is not the case in practice as the numerous accidents associated with such tanks testify.



## **Storage tanks**

Large storage tanks can be difficult and costly to inspect and maintain. Direct visual internal inspection requires the tank be emptied and cleaned, which is time-consuming and expensive and wasteful of resources if the tank is found to be sound. EEMUA's awareness of the problem has led to the development of strategies aimed at minimising the time equipment is out of use, whilst taking risk and consequence of failure into account.

### **EEMUA 159:**

#### **Users' guide to the inspection, maintenance and repair of aboveground vertical cylindrical steel storage tanks**

This users' guide is considered to be the most comprehensive available on storage tank inspection, maintenance and repair. It offers guidance on the inspection and maintenance of tanks built to BS or API standards for the storage of petroleum and chemical feedstocks and products and refrigerated gases. Key features for planning and executing inspection, maintenance and repair works on above ground vertical cylindrical steel storage tanks are set out. The publication covers description of the key tank components that require inspection and maintenance, degradation mechanisms and common inspection techniques, together with a description of the probabilistic (risk- and reliability-based) preventative mechanism concept. This latest third edition includes details on hydrotesting, repair and re-siting of tanks.



## **EEMUA 159**

### **Introduction**

This publication is intended primarily to assist in the establishment of essential inspection requirements for aboveground, vertical, cylindrical, steel storage tanks, in order to minimise in-service problems, and extend useful life. However for such requirements to be properly interpreted and understood, comprehensive guidance is given on many key design features, on common problems experienced during operation and on repair methods.

The publication addresses, primarily, storage tanks built in accordance with relevant British Standards, but where appropriate it also refers to and makes use of commonly accepted international standards and codes such as those of the American Petroleum Institute. These differ little from the in-service conditions that they cover and the resulting inspection requirements.

It should be noted, however, that some tanks in particular or unusual locations or operating situations may require additional or special attention.

### **Scope**

The description of key tank components that require inspection and/or maintenance, of degradation mechanism, and of common inspection techniques.



## EEMUA 159

### 1) Operation, and integrity management issues:

- Corrosion
- Hydro-testing and putting into service
- Process safety management, instrumentation and control
- Repairs of storage tanks
- Operation boundary consideration

### 2) Tank shell:

- Corrosion assessment, theoretical shell thickness calculation

### 3) Tanks re-sitting, and jacking up, relocation, and demolition

- Stability consideration, define height-, and number of secondary wind girders, remaining life calculation
- Shell plate thickness safety and rejection limit calculation

### 4) Tank bottom, tank roof and roof framing, safety and rejection limit-, and remaining life calculation

### 5) Settlement and the design of foundation

### 6) Venting, over-pressure and environmental consideration

### 7) Overview of tank integrity and inspection issues

- Potential welding defects
- Non-destructive testing techniques
- Brittle fracture consideration



## **EEMUA 159 - Inspections, and evaluation**

1) External inspection evaluation, corrosion, erosion and wear, as the following:

- Isolation, painting
- Shell-, roof plate thickness
- Venting, valves, instrumentations, fittings
- Floating roof rim seals
- Storage tank foundation, -bunds, settlement, conditions, arrangement, out-of verticality
- Bottom leakage at tank shell

2) Internal inspection evaluation, corrosion, erosion and wear as the following:

- Tank bottom condition:
  - Corrosion
  - Welding defects
  - Deformation
- Tank shell condition:
  - Corrosion
  - Welding defects
  - Coating
- Tank roof condition:
  - Frangible storage tank roof joints
  - Corrosion on roof plates, and framing
  - Corrosion and liquid set-up on floating roof pontoons
  - Floating roof rim seals, reinforcement, drain



### **EEMUA 159 – TankAssessor™ certification**

- Gain an understanding of the design, material and fabrication aspects of tank construction with respect to repair or restrictions of use after degradation in service.
- Understand the principles, output and limitations of inspection methods and techniques.
- Be able to make a sound assessment of the integrity of a storage tank and foundation, and offer guidance on the need for repair, its urgency and methods of effecting such repair.
- An outline of products stored, codes of practice, tank types, materials, design parameters, venting, settlement jacking, insulation.
- An understanding of EEMUA 159, integrity assessment, methods of repair or restrictions of service.
- In-service problems such as corrosion, erosion and wear.
- Visual and NDT inspection, reporting and evaluating results.
- Failures.
- Repairs, welding processes and qualifications, quality control and testing.
- Use of EEMUA 154 (tank demolition) and EEMUA 180 (frangible roof joints).
- Case history studies.



## EEMUA TankAssessor™ Certificate



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**Level One**

**Certificate of Core Competence**  
IN ASSESSMENT OF STORAGE TANKS TO EEMUA 159

This certificate is awarded to

**Mr Attila Dömötör**

for attending the TankAssessor™ (Level One) course  
and successfully passing the end-of-course examination

**Date Awarded: 5 February 2010**

Certificate Number: 10/02L1/95

  
Jan de Jong  
Chairman  
EEMUA TankAssessor Scheme Committee



EEMUA, an international, non-profit industry Association, aims to improve the safety, environmental and operating performance of industrial facilities in the most cost-effective way. EEMUA Members pursue these aims by sharing engineering experiences and expertise, and by the promotion of their distinct interests as the users of engineering products.

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This certificate remains the property of EEMUA. This certificate is valid for up to 5 years from the date of award

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# 11/1194 (III.25.) IKM – Certificate (Hun)

**tanxperts.com**

62A-3/2011

törzskönyvi szám

F-471/2011

bizonyítvány száma

MAGYAR KERESKEDELMI ENGEDÉLYEZÉSI HIVATAL

## BIZONYÍTVÁNY

**DÖMÖTÖR ATTILA**

aki Siófok 80. jan. 10.  
19.....évi..... hó..... napján született,

anyja neve: **NAGY JUDIT**  
a Magyar Kereskedelmi Engedélyezési Hivatal és a Magyar Tartálytechnikai és Nyomástartó Berendezés Szövetség Tanúsító Testület vizsgabizottsága előtt vizgát tett és a módosított 11/1994. (III.25.) IKM rendelet hatálya alá tartozó

**TARTÁLYOK VIZSGÁLATÁRA \***

szakképesítést nyert.

Budapest, 2011. március 07.

*Stórk János*  
a vizsgabizottság elnöke

P. H.

*Valud*  
a vizsgabizottság tagja

*Atyaszék*  
a vizsgabizottság tagja

**\*KORLÁTOZÁSOK:**

**ÉRVÉNYES: 2016. március 07.**



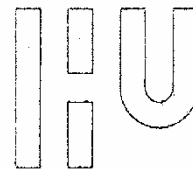


# EEMUA TankAssessor™ Certificate

2008-Okt-28 08:40 Mon. Secr. ROC Westerschelde 0115641794

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CERTIFICAAT HOGESCHOOL  
UTRECHT



Hogeschool Utrecht, Centrum voor Natuur & Techniek  
en  
Engineering Equipment and Materials Users Association (EEMUA)  
verklaren dat

**Evert P.M. Martens**

Geboren 17 juli 1973 te Terneuzen

van 29 oktober t/m 2 november 2007 heeft deelgenomen aan de opleiding

## Auditing of Storage Tanks to EEMUA 159 – level 1

en dat hij met goed gevolg het examen heeft afgelegd te Utrecht.

Afgifte datum certificaat: 7 maart 2008  
Geeldig tot: 7 maart 2013

Nummer certificaat: 54091

voorzitter  
examencommissie  
Centrum voor Natuur & Techniek

gecommitteerde  
examencommissie  
EEMUA

ir. L. van Haaren

ing. J. de Jong



## CERTIFICAAT



De examencommissie van de cursus Inspectie- en Keuringstechnieken Level 2 van het Centrum voor Natuur & Techniek, Hogeschool Utrecht

verklaart dat **Evert P.M. Martens**

geboren **17 juli 1973** te **Terneuzen**

in de studie jaren **2008 en 2009** met goed gevolg heeft deelgenomen aan de cursus

**Inspectie- en Keuringstechnieken Level 2**

met een omvang van **500** uren

Utrecht, 21 januari 2011

voorzitter

ing. M.A. Grijpink

secretaris

ing. G.W. van Bezooijen

gecommitteerde

ing. J.J.M. Abén

De examencommissie van de cursus Inspectie- en Keuringstechnieken Level 2 van het Centrum voor Natuur & Techniek, Hogeschool Utrecht

## CERTIFICAAT



**We thank you for  
your time, and your  
attention!**



**Do not use  
portable telephones**  
**tanxperts™ team**

