SLOVENSKI STANDARD
SIST EN 15207:2007

01-april-2007

Posode za prevoz nevarnih snovi ï Vtiļ niģka zveza in napajalne znaļ ilnice za obratovalno opremo v ogroģenih prostorih z nazivno napajalno napetostjo 24 V

Tanks for transport of dangerous goods - Plug/socket connection and supply characteristics for service equipment in hazardous areas with 24 V nominal supply voltage

Tanks für die Beförderung gefährlicher Güter - Steckvorrichtung und elektrische Kennwerte der Versorgung von Bedienungsausrüstungen in explosionsgefährdeten Bereichen mit 24 V Nennspannung

Citernes destinées au transport des matieres dangereuses - Prises et embases de raccordement, caractéristiques de l'alimentation électrique des équipements de service en atmospheres explosibles, a tension nominale de 24 V

Ta slovenski standard je istoveten z: **EN 15207:2006**

ICS:

13.300	Varstvo pred nevarnimi izdelki	Protection against dangerous goods
23.020.20	Posode in vsebniki, montirani na vozila	Vessels and containers mounted on vehicles

SIST EN 15207:2007 **English language**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15207

December 2006

ICS 13.300; 23.020.20

English Version

Tanks for transport of dangerous goods - Plug/socket connection and supply characteristics for service equipment in hazardous areas with 24 V nominal supply voltage

Citernes destinées au transport de matières dangereuses - Prises et embases de raccordement, caractéristiques de l'alimentation électrique des équipements de service en atmosphère explosible

Tanks für die Beförderung gefährlicher Güter - Steckvorrichtung und elektrische Kennwerte der Versorgung von Bedienungsausrüstungen in explosionsgefährdeten Bereichen

This European Standard was approved by CEN on 11 November 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword

This document (EN 15207:2006) has been prepared by Technical Committee CEN/TC 296 “Tanks for transport of dangerous goods”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

This European Standard forms part of a coherent standards programme comprising the following standards:

EN 13616, *Overfill prevention devices for static tanks for liquid petroleum fuels.*

EN 13922, *Tanks for transport of dangerous goods — Service equipment for tanks — Overfill prevention systems for liquid fuels.*

EN 14116, *Tanks for transport of dangerous goods — Digital interface for the product recognition device.*

EN 15208, *Tanks for transport of dangerous goods — Sealed parcel delivery systems — Working principles and interface specifications.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies the interoperability requirements for the tractor/trailer and/or transport tank/trailer plug/socket for the use in hazardous areas, being:

— the connection used for the supply Type A and supply Type S electrical power to service equipment; and

— the supply characteristics for each operating mode.

This plug/socket combination includes provisions for future connections including data transfer.

The plug/socket connection is not used for purposes which are specified in other standards for truck – trailer connections e.g. ISO 12098 and ISO 7638-1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60079-0, *Electrical apparatus for explosive gas atmospheres — Part 0: General requirements (IEC 60079-0:2004)*

EN 60079-7, *Electrical apparatus for explosive gas atmospheres — Part 7: Increased safety "e" (IEC 60079-7:2001)*

EN ISO 8092-2, *Road vehicles — Connections for on-board electrical wiring harnesses — Part 2: Definitions, test methods and general performance requirements (ISO 8092-2:2005)*

ISO 4091, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — Definitions, tests and requirements*

ISO 8820-1, *Road vehicles — Fuse-links — Part 1: Definitions and general test requirements*

ISO 8820-3, *Road vehicles — Fuse-links — Part 3: Fuse-links with tabs (blade type)*

ISO 8820-4, *Road vehicles — Fuse-links — Part 4: Fuse-links with female contacts (type A) and bolt-in contacts (type B) and their test fixtures*

ISO 12098, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 15-pole connector for vehicles with 24 V nominal supply voltage*

ISO 16750-3, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 3: Mechanical loads*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
supply Type A
one that is designed to remain safely active in hazardous areas (e.g. while the switch for operation in hazardous areas is open)

3.2
supply Type S
one that is designed to be switched off in hazardous areas

4 Power supply characteristics

4.1 Service equipment energy consumption

The consumption of the service equipment shall not exceed 6 Ah for a period of 2 h or 30 Ah for a period of 72 h.

NOTE For tractors/tank trucks which have a plug/socket connection according to this European Standard, the design of the tractor/tank truck should consider this fact e.g. for the design of the battery, generator etc.

The consumption of the service equipment is limited according to 4.2 and 4.3.

4.2 Current ratings of supplies

The supply Type A and the supply Type S shall be fused with melting fuses of 5 A according to ISO 8820-1, ISO 8820-3 and ISO 8820-4.

4.3 Voltages rating

The voltages rating shall be the nominal 24 V DC.

5 Design characteristics

5.1 Plug/socket connection

5.1.1 General

Plug/socket connection according to ISO 12098, ISO 8092-2 and ISO 16750-3.

To avoid mismating of this plug/socket connection with other plug/socket connections according to ISO 12098 or similar plug/socket connections, any insertion force ≤ 1 000 N shall not result in an electrical contact.

Additional or exceptional requirements according to 5.1.2 to 5.1.5.

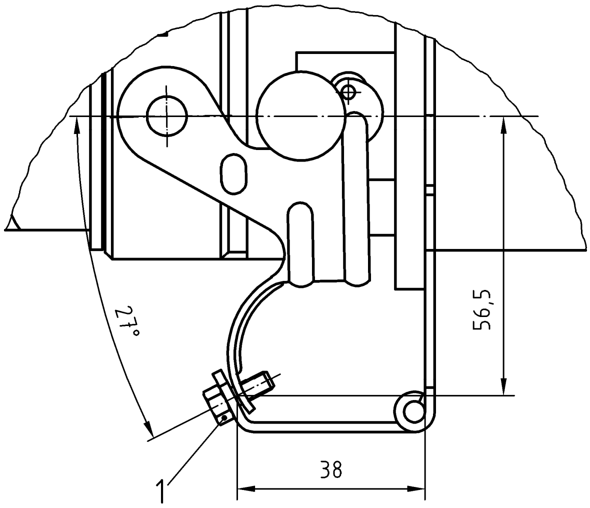
5.1.2 Requirements for operation in hazardous areas

Tractor/trailer connection shall fulfil the requirements of equipment category 2, gas group IIC and temperature class T6 under consideration that no connection/disconnection happens in a hazardous area. Operating voltage $U \leq 60$ V according to EN 60079-7 regarding isolation.

The plug/socket connection shall be designed according to Figure 1 to Figure 3 to prevent accidental disconnection. It shall only be possible to unscrew the screw with a tool. The screw shall be captive and self-locking with a thread dimension M 4×16.

All connections except those used by the power supply shall be limited to a current $I_{oc} < 4$ A per pin.

Dimensions in millimetres



Key

1 screw

Figure 1 — Locking mechanism for plug/socket

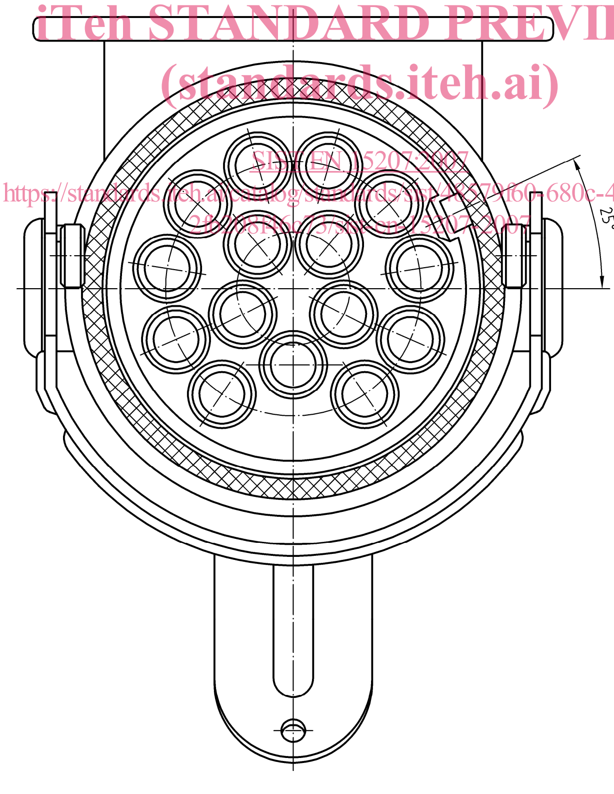
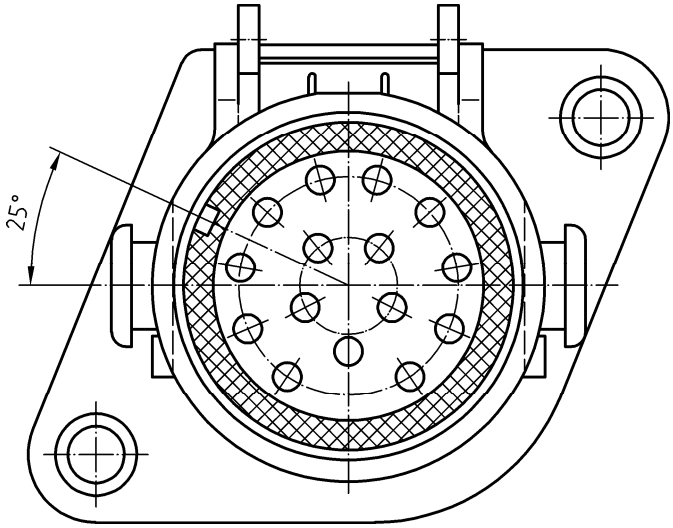


Figure 2 — Plug



NOTE Socket without cover.

Figure 3 — Socket, fixed installed

5.1.3 Pin use restriction

Any pin, except those dedicated to supply Type S, may be energized at any time.

Certified and non-certified equipment connected to any pin, except those assigned to supply Type A or supply Type S, shall be designed to prevent the current exceeding 4 A (fuse rating) per pin.

The compatibility of the equipment using the data transfer pins defined in this European Standard is the responsibility of the operator.

5.1.4 Keying

Keying of plug/socket shall be according to Figure 2 and Figure 3.

The colour of the plug and socket shall not be blue.

5.1.5 Pin assignment

The number of pins shall be 15.

All plug/socket connections according to Table 1 shall have the same pin assignment.