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Aircraft ground support equipment - Specific requirements - Part 5: Aircraft fuelling equipment

Luftfahrt-Bodengeräte - Besondere Anforderungen - Teil 5: Betankungseinrichtungen für Luftfahrzeuge

Matériel au sol pour aéronefs - Exigences particulières - Partie 5 : Matériels d'avitaillement en carburant

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49.100

Oprema za servis in vzdrževanje na tleh

Ground service and maintenance equipment

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English Version

Aircraft ground support equipment - Specific requirements - Part 5: Aircraft fuelling equipment

Matériel au sol pour aéronefs - Exigences particulières
- Partie 5 : Matériels d'avitaillement en carburant

Luftfahrt-Bodengeräte - Besondere Anforderungen -
Teil 5: Betankungseinrichtungen für Luftfahrzeuge

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 274.

This draft amendment A1, if approved, will modify the European Standard EN 12312-5:2021. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (EN 12312-5:2021/prA1:2023) has been prepared by Technical Committee CEN/TC 274 “Aircraft ground support equipment”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document amends EN 12312-5:2021.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

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EN 12312-5:2021/prA1:2023 (E)**1 Modification to the Introduction**

In the 6th paragraph, delete the 4th indent: “consumers (in case of machinery intended for use by consumers).”.

2 Modifications to Clause 2, “Normative references”

Replace

“EN 1915-1:2013, Aircraft ground support equipment — General requirements — Part 1: Basic safety requirements”

with

“EN 1915-1:2023, Aircraft ground support equipment — General requirements — Part 1: Basic safety requirements”

in Clause 2 and throughout the document.

Delete the reference to DIN 51130:2014.

3 Modifications to Clause 3, “Terms and definitions”

Replace the content of Clause 3 with the following:

“For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and EN 1915-1:2023 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1**aviation fuels**

hydrocarbon type liquids used as fuel in an aircraft engine

3.1.1**jet fuel**

kerosene type distillate fuel used in turbine engines

3.1.2**aviation gasoline****Avgas**

gasoline for use in piston type aircraft engines

3.2**static dissipator additive****SDA**

additive added to the fuel to increase its electrical conductivity

Note 1 to entry: Also known as conductivity improver or anti-static additive.

3.3**aircraft fuel control panel**

aircraft mounted panel, used to control fuel distribution and quantities in aircraft tanks

3.4 refuelling

3.4.1 pressure refuelling underwing refuelling

refuelling under positive pressure through a nozzle directly connected to the aircraft fuelling adapter

3.4.2 overwing refuelling non-pressure refuelling

refuelling at atmospheric pressure through an overwing/trigger nozzle and entered into a fuel filling orifice

3.5 defuelling

function of removing fuel from an aircraft into a vehicle, usually through the aircraft refuelling adapters, which is subdivided into:

- pressure defuelling: when aircraft pumps are used to pump the fuel from the tanks of the aircraft to the AFE;
- suction defuelling: when AFE's pump is used to draw the fuel from the aircraft

Note 1 to entry: A combination of both may be used.

3.6 operational area

part of an airfield used for servicing aircraft

3.7 hydrant system

system of tanks, stationary pumps, valves, filters and pipework to supply fuel to the operational area where aircraft are refuelled

3.8 hydrant pit box

box set in the operational area which contains the hydrant pit valve or the low point or vent valve

3.9 hydrant pit coupler

device fitted to the intake hose to connect the hose to the hydrant pit valve

Note 1 to entry: The coupler may be fitted with additional devices such as deadman control, pressure control and an excess flow limiter.

3.10 hydrant pit valve

valve set in a hydrant pit box, equipped with an emergency shut-off device, to which the hydrant pit coupler can be attached

Note 1 to entry: The hydrant pit valve may be fitted with additional devices such as deadman control, pressure control valve or excess flow limiter.

EN 12312-5:2021/prA1:2023 (E)**3.11****intake hose**

hose for fuel flow from the hydrant pit valve to the AFE

3.12**aircraft refuelling adapter**

aircraft mounted adapter to which the pressure refuelling nozzle is connected

Note 1 to entry: A similar adapter may be used to connect loading hoses to an aircraft refueller.

3.13**intermediate connecting point**

connecting point meant for connecting refuellers to fuelling hoses on a towable fuelling platform

3.14**stationary dispensing unit**

underground rising platform and/or fixed unit designed to refuel aircraft

3.15**aircraft fuelling equipment****AFE**

equipment used to handle aviation fuels on an airfield, including:

- aircraft refuellers;
- hydrant dispensers;
- defuellers;
- hydrant pit servicing vehicles;
- pit cleaner vehicles;
- stationary dispensing units

3.16**aircraft refueller**

self-propelled or towable vehicle designed to carry aviation fuel and capable of refuelling aircraft by means of an on-board pump

Note 1 to entry: Some aircraft refuellers are also capable of defuelling aircraft.

3.17**hydrant dispenser**

self-propelled or towable vehicle used to refuel aircraft requiring an external fuel supply with the hydrant system as pressure source

Note 1 to entry: Hydrant dispensers can be fitted with a boost pump where hydrant pressure is insufficient to provide adequate flow rates into the aircraft.

Note 2 to entry: A hydrant cart is considered as a hydrant dispenser.

3.18**self-loading/dual purpose refueller**

vehicle equipped to be self-loaded from the hydrant system or fitted out as a dual-purpose vehicle that can also be used as a hydrant dispenser, i.e. hydrant sourced fuel is delivered directly to the aircraft and not via the cargo tank

Note 1 to entry: In both cases, the refuellers are fitted with an intake hose and nozzle to connect to the hydrant pit valve.

3.19**defueller**

vehicle designed to defuel but not to refuel aircraft

3.20**hydrant pit servicing vehicle**

AFE designed to flush and test hydrant pit valves in situ as well as to flush and vent low and high points on the hydrant system

3.21**rigid vehicle**

self-propelled chassis to which an aviation fuel tank is permanently attached

3.22**refuelling platform**

fixed or moveable platform to enable the operator to gain access to the aircraft fuel control panel and aircraft refuelling adapters

Note 1 to entry: This may be an elevating platform, an extending structure or both, and may be part of or remote from an AFE.

3.23**specific fuelling equipment**

part of the AFE comprising the fuel handling components, including, but not limited to:

- cargo tank,
- deadman systems,
- filtration,
- hoses,
- metering equipment,
- pipework,
- pressure control,
- pumps,
- sampling devices,
- valves

EN 12312-5:2021/prA1:2023 (E)**3.24****overwing/trigger nozzle**

nozzle used for non-pressure fuelling and hand held in an open fuel filling orifice giving access to the aircraft fuel tank

3.25**pressure refuelling nozzle**

quick disconnect device, used in pressure refuelling, fitted to the hose end, connecting hose and aircraft fuelling adapter

3.26**closed circuit overwing/trigger nozzle**

nozzle connected mechanically to the fuel filling orifice which is vented to the atmosphere

3.27**chassis****3.27.1****self-propelled chassis**

part of the vehicle which comprises the driver's or operator's cabin, the engine and transmission including the fuel, intake and exhaust systems, the wheels, axles, suspension system, braking system and other parts of the running gear, the fifth wheel assembly (for towing a semi-trailer) or the drawbar coupling (for towing drawbar trailers), the lights and electrical system that are usually fitted by the manufacturer of the chassis and the frame on which it is built

3.27.2**trailer chassis**

part of the trailer which comprises the running gear (wheels, axles, suspension system and braking system), the drawbar or A frame, that part of the assembly fitted to the trailer to connect to the tractor fifth wheel (the rubbing plate), the lights and electrical system and the frame on which the tank and/or equipment is fitted

3.28**battery master switch**

switch fitted close to the vehicle battery for isolating circuits of the AFE's electrical system

3.29**power take-off**

device fitted to the vehicle to provide power to auxiliary services such as a hydraulic pump or fuel pump

3.30**vehicle movement interlock**

device which prevents a vehicle being moved when components are not in their secured positions

3.31**interlock override switch**

device to render the interlock inoperative in emergency situations

3.32**bonding cable**

electrically conducting cable/wire to equalize electrical potential

EXAMPLE Between AFE and aircraft, aircraft refueller and loading facility.

3.33**bonding point**

designated attachment point for the bonding cable to ensure good electrical continuity

3.34**hold to run system****deadman system**

system consisting of a hold to run (deadman) valve and a hold to run (deadman) control which ensures human control while operating

3.35**cargo tank**

tank for the carrying of aviation fuels, having a liquid capacity of more than 1 000 l, mounted permanently or otherwise secured on an AFE

3.36**compartment**

liquid tight division in a cargo tank

3.37**partition**

liquid tight, transverse closure between compartments of a cargo tank

3.38**baffle**

non-liquid tight, transverse partition in a cargo tank

Note 1 to entry: If the baffle is fitted longitudinally it is called "a longitudinal baffle".

3.39**baffled area**

part of the cargo tank between two baffles or between baffle and tank end

3.40**foot valve**

valve designed for loading or discharging of fuel fitted in the bottom of a cargo tank

3.41**bottom loading**

loading an aircraft refueller or cargo tank into the bottom of the tank through a closed system

3.42**bottom loading adapter**

self-sealing device to which the loading hose or arm is connected

3.43**filtration equipment**

device installed on the AFE through which the aviation fuel passes for removal of particulate matter and/or water

3.44**dP switch/gauge**

switch/gauge acting by comparison of 2 different pressure levels