

Specification for

**Sizes of aircraft gravity  
filling orifices and  
associated  
replenishment nozzles  
(metric series)**

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# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Aerospace Standards Committee (ACE/-) to Technical Committee ACE/14 upon which the following bodies were represented:

Civil Aviation Authority (Airworthiness Division)  
 British Independent Steel Producers' Association  
 Federation of Wire Rope Manufacturers of Great Britain  
 Ministry of Defence  
 Society of British Aerospace Companies Limited  
 Stainless Steel Wire Export Group  
 The Institute of Petroleum

This British Standard, having been prepared under the direction of the Aerospace Standards Committee, was published under the authority of the Board of BSI and comes into effect on 29 February 1988

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# Foreword

This British Standard, which has been prepared under the direction of the Aerospace Standards Committee, is a revision of BS C 13:1960 which is withdrawn. Except for the orifice sizes relating to aviation gasoline (AVGAS), turbine fuel and synthetic lubricants, and the addition of dimensions for replenishment nozzles, it is technically equivalent to ISO 102:1976, published by the International Organization for Standardization (ISO).

The standard has been revised to introduce separate sizes of gravity filling orifices for synthetic and non-synthetic lubricants, and for aviation gasoline (AVGAS) and turbine fuel, the former having a diameter smaller than that for the latter. It also specifies the outside diameters of the associated fuel replenishment nozzles.

The adoption of these requirements for fuel filling orifices will minimize the possibility of the incorrect replenishment of aviation gasoline powered aircraft with turbine fuel and its attendant disastrous consequences.

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## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

## 1 Scope

This British Standard specifies the minimum and/or maximum internal diameters of orifices for the gravity filling of aircraft with fuel, lubricants and other liquids. It also specifies the outside diameters of associated replenishment nozzles, and in particular of those nozzles used for the gravity replenishment of aircraft with aviation gasoline (AVGAS) and turbine fuel.

NOTE 1 The titles of the publications referred to in this standard are listed on the inside back cover.

NOTE 2 The latest revision of an Aerospace Series standard is indicated by a prefix number.

## 2 Dimensions of gravity filling orifices

The internal diameters of the orifices shall be as given in Table 1.

**Table 1 — Orifice diameters**

Filling orifice	Internal diameter	
	Min.	Max.
	mm	mm
Aviation gasoline (AVGAS)	55	60
Turbine fuel	75	—
Non-synthetic lubricants	50	—
Synthetic lubricants	38	—
De-icing fluids	44	—
Drinking water	44	—
Hydraulic fluids	38	—
Coolant	38	—
Engine refrigerants	38	—

NOTE Where a filter is fitted at any of the orifices stated in the table, it should not result in a reduction of the relevant minimum internal diameter.

## 3 Dimensions of replenishment nozzles

### 3.1 Fuelling nozzles

The external diameter of nozzles used for the gravity replenishment of aircraft with fuel shall be as given in Table 2.

### 3.2 Other replenishment nozzles

The outside diameters of nozzles used for the gravity replenishment of liquids other than fuel shall be such that the nozzles can be readily inserted into the relevant minimum orifice diameter given in Table 1.

**Table 2 — Fuel nozzle diameter**

Fuel	Nozzle external diameter	
	Min.	Max.
	mm	mm
Aviation gasoline (AVGAS)	—	49
Turbine fuel	67	70



## Publication referred to

ISO 102, *Aircraft — Gravity filling orifices*<sup>1)</sup>.

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<sup>1)</sup> Referred to in the foreword only.

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