

INTERNATIONAL STANDARD



12

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Aerospace — Pipelines — Identification scheme

Aéronefs — Tuyauteries — Procédé d'identification

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 12 was drawn up by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, and was circulated to the Member Bodies in September 1975.

It has been approved by the Member Bodies of the following countries :

Australia	Germany	South Africa, Rep. of
Belgium	India	Spain
Brazil	Japan	Turkey
Canada	Mexico	United Kingdom
Czechoslovakia	Netherlands	U.S.S.R.
Egypt, Arab Rep. of	Poland	
France	Romania	

No Member Body expressed disapproval of the document.

*This I S cancels and replaces
ISO Recommendation ~~12~~ 12 - 1970.*



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ERRATUM

Inside front cover

Add the following paragraph at the end of the Foreword :

"This International Standard cancels and replaces ISO Recommendation R 12-1970."

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Aerospace — Pipelines — Identification scheme

1 SCOPE AND FIELD OF APPLICATION

This International Standard states the requirements for a scheme to indicate, by appropriate marking, the functions or contents of pipe systems in aircraft and spacecraft.

The purpose of the scheme is to provide the minimum identification necessary for normal maintenance purposes.

2 THE SCHEME

2.1 General

2.1.1 Where ambient temperatures permit, the scheme shall consist of markers fixed to the pipe systems to indicate their functions or contents, to give due warning where the contents are dangerous and, when required, to indicate the direction of flow of the contents. Typical applications of the scheme are shown in figure 1.

Any additional identification required should be separate and distinct from the lettering, symbols and colours specified in this International Standard. It is recommended that such additional identification should be by means of a number code (see figure 1d)).

2.1.2 Where ambient temperatures are too high to permit the use of markers, the requirements of this International Standard shall be met as fully as possible. As a minimum requirement, one inscription in black letters, located in accordance with clause 4, shall be applied in such a manner that it remains legible throughout the temperature range imposed on the line.

2.2 Basic identification

2.2.1 Each of the pipe systems listed in table 1 shall be identified by a marker bearing the designation of the system, together with the appropriate symbol as described in table 1 and shown in figure 2.

2.2.2 Filler lines, vent lines, pressure transmitter lines, priming lines and drain lines or related functional equipment shall be identified by the same marker as the main line.

TABLE 1 — Pipe systems and symbols

Designation of pipe system	Symbol (see figure 2)	
	Description	No.
Air conditioning	Dot pattern	11
Battery activator	Ellipse with radiating lines	24
Breathing oxygen	Rectangle	10
Compressed gas	Broad diagonal stripe	16
Coolant	Horizontal "S"	9
De-icing	Triangle ¹⁾	13
Drinking water	"H ₂ O"	25
Electrical conduit	Flash of lightning	17
Fire protection	Horizontal diamond	12
Fuel	Four-pointed star	1
Hydraulic	Circle	6
Inerting	Pipe cross ¹⁾	19
Instrument air	Zig-zag line ²⁾	8
Lubrication	Square ¹⁾	5
Monopropellant	Block T	21
Rain repellent	Falling raindrops	22
Pneumatic	"X" ²⁾	7
Rocket catalyst	Three vertical stripes ²⁾	15
Rocket fuel	Four-pointed star inside crescent	3
Rocket oxidizer	Crescent	2
Solvent	Horizontal stripes	20
Vacuum	Wavy line ²⁾	23
Waste water	Chain ²⁾	26
Water injection	Chevron	4

1) Alternate symbols to be staggered.

2) Continuous pattern.

2.2.3 The contents of pipelines other than those listed in table 1 (for example toilet) shall, where necessary, be identified by markers bearing the name of the function or contents only.