SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
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# METRIC AEROSPACE STANDARD

Submitted for recognition as an American National Standard

MA2001
(ISO 6771)

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REV. A

## AEROSPACE FLUID SYSTEMS AND COMPONENTS - PRESSURE AND TEMPERATURE CLASSIFICATIONS

1. INTRODUCTION:

Aerospace fluid systems and components are generally designed and marked for a specific fluid pressure and temperature type. The operating pressures listed are selected from ISO 2944 as far as practical.

2. SCOPE AND FIELD OF APPLICATION:

This document establishes the temperature types and pressure classes that are commonly used in aerospace fluid systems.

3. REFERENCES:

ISO 2944, Fluid Power Systems and Components-Nominal Pressures

4. TEMPERATURE CLASSIFICATIONS:

System operating temperature ranges shall be classified as follows:

TABLE I

TEMPERATURE TYPE (°C)

| | |
|---|---|
| TYPE I | -55 to 70 |
| TYPE II | -55 to 135 |
| TYPE III | -55 to 200 |
| TYPE IV | -55 to 320 |
| TYPE V | -55 to 400 |
| TYPE VI | -55 to 650 |





REAFFIRMED
APRIL 1993

5. NOMINAL PRESSURE CLASSIFICATIONS:

Nominal pressures shall be classified as follows:

TABLE II

NOMINAL PRESSURE CLASSES [kPa (bar)]

| | | |
|---|---|---|
| CLASS A | 4000 kPa | (40 bar) |
| CLASS B | 10500 kPa | (105 bar) |
| CLASS C | 16000 kPa | (160 bar) |
| CLASS D | 21000 kPa | (210 bar) |
| CLASS E | 28000 kPa | (280 bar) |
| CLASS F | 40000 kPa | (400 bar) |
| CLASS G | 50000 kPa | (500 bar) |



APPENDIX

ISO/DIS 6771 AEROSPACE SYSTEM PRESSURES AND TEMPERATURES

ASSIGNMENT:

At the fifth meeting of ISO/TC 20/SC 10 in Paris in October 1976, the U.S. agreed to prepare a standard for fluid system pressures and temperatures.

BACKGROUND:

Initially, the proposal was discussed under a proposed specification for fittings (SC 10 - N.53, N.93). In accordance with SC 10 resolution No. 33, the subject proposal was then drafted as a separate document (SC 10 - N.203) because of its applicability to other areas.

Revision A changed the nominal pressure classes 10 000 and 20 000 kPa to 10 500 and 21 000 kPa respectively. The 10 000 and 20 000 kPa classes follow the ISO 2944 Renard Series for nominal pressures but would require redesign and changes to the currently used 1500 and 3000 psi hydraulic system components if they were to be used in metric systems. Revision A limits the changes to the fittings of the 1500 and 3000 psi components, and will avoid changes to wall thicknesses, bore dimensions, etc., allowing such components to be used in metric systems.