
**Space systems — Structural design —
Determination of loading levels for static
qualification testing of launch vehicles**

*Systèmes spatiaux — Conception des structures — Détermination des
niveaux de chargement pour un essai statique de qualification des
véhicules lanceurs*



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Foreword

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Space systems — Structural design — Determination of loading levels for static qualification of launch vehicles

1 Scope

This International Standard specifies a procedure for determining the loading level of a qualification test of a launch vehicle structure and takes into account all the minimum allowable strength characteristics necessary for these structures.

This International Standard establishes the required resistance necessary for all mass-produced items to comply with product assurance criteria.

2 Terms and definitions

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

2.1

external mechanical loading

system of forces and moments external to a structure and brought to bear on that structure

2.2

safety factor

J

coefficient by which a limit load is multiplied

2.2.1

yield strength safety factor

J_E

ratio of the yield load of the material to the limit load

NOTE This coefficient is applicable only to metal structures.

2.2.2

ultimate safety factor

J_R

ratio of the allowable ultimate load to the limit load

2.3

overload

excess of internal distributed load used for certain calculations to account for design

3 Design of loading levels

3.1 General

Qualification tests shall be conducted on a flight-type structure. Because such structures are unlikely to include minimum values for all allowable characteristics, the loads used for design shall be corrected before use in