ISO 23312:2026-10 (E)

Space systems - Detailed space debris mitigation requirements for spacecraft

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols and abbreviated terms 2

5 Avoiding release of space debris into Earth orbit during normal operations 2

6 Avoiding break-ups in Earth orbit 3
6.1 General 3
6.2 Accidental break-up caused by an on-board source of energy 3
6.2.1 General measures 3
6.2.2 Subsystem-specific measures 4
6.3 Accidental break-up caused by a collision 5
6.3.1 Collision avoidance 5
6.3.2 Assessment of the probability of structural break-up caused by impacts with debris or meteoroid 6

7 Disposal of spacecraft after the end of mission 6
7.1 General 6
7.2 Ensuring execution of disposal action 6
7.3 Disposal to minimize interference with the GEO protected region 7
7.3.1 General 7
7.3.2 Developing basic manoeuvre requirements for a stable disposal orbit 7
7.3.3 Developing long-term (100-year) disposal orbit characteristics 7
7.3.4 Determining the manoeuvre sequence 8
7.4 Disposal to minimize interference with the LEO protected region 8
7.4.1 General 8
7.4.2 Re-entry 8

8 Estimating mass of remaining usable propellant 8
8.1 General 8
8.2 Uncertainty of estimation 9
8.3 Incorporating required function into spacecraft design 9
8.4 Documentation of data 10

9 Space debris mitigation plan 10
9.1 General 10
9.2 Break-up prevention plan 11
9.3 End of mission disposal plan (EOMDP) 11
9.4 Contingency plan 12

Annex A (informative) Procedure for estimating probability of accidental break-up 13

Annex B (informative) Examples of estimation methods 16

Annex C (informative) Deployable drag enhancement device 18

Bibliography 19