ISO 22538-6:2010-08 (E)

Space systems - Oxygen safety - Part 6: Facility planning and implementation

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms, definitions and abbreviated terms 1
3.1 Terms and definitions 1
3.2 Abbreviated terms 1

4 Planning and implementation 2
4.1 Planning 2
4.2 Environmental review 2
4.3 Vapour cloud dispersion 2
4.4 Fire/explosive protection 2
4.5 Quantity-distance relationships 2
4.6 Facility design guidelines 2

5 Hazards and reviews 3
5.1 Hazards 3
5.2 Hazards analysis 4

6 Storage systems 4
6.1 Bulk oxygen system 4
6.2 GOX location 4
6.3 Barriers 5
6.4 Mechanical devices, instruments and operating procedures 5
6.5 LOX location 5
6.6 Storage tanks and impounding areas 5

7 Storage vessels 5

8 Fire protection systems for oxygen-enriched environments 6
8.1 General 6
8.2 Fire-extinguishing systems 6
8.3 Fire-extinguishing agents 6

9 Barricades 7
9.1 Need 7
9.2 Liquid or vapour travel 7
9.3 Storage vessels 7
9.4 Types 7
9.5 Studies and test results 7
9.6 Pumps 8
9.7 Location of pressure vessels 8

10 Quantity-distance guidelines for bulk liquid oxygen storage 8
10.1 Criteria 8
10.2 Compatibility groups 8
10.3 Quantity-distance tables 8

10.4 Incompatible storage 8
10.5 Explosive equivalent 8
10.6 Inhabited buildings and public traffic routes 9

11 Quantity distance guidelines for bulk gaseous oxygen storage 9
11.1 General guidelines 9
11.2 Protective structures 10

12 Oxygen detection 10
12.1 Decision making 10
12.2 Oxygen detection and monitoring system 10
12.3 Approval 11
12.4 Planning requirements 11
12.5 Location requirements 11

13 Venting and disposal systems 12
13.1 Liquid oxygen disposal 12
13.2 Gaseous oxygen (vapour) venting 12

Annex A (informative) Tables 14

Bibliography 19