DIN EN 13035-2:2008-06 (E)

Machines and plants for the manufacture, treatment and processing of flat gla ss - Safety requirements - Part 2: Storage, handling and transportation equipment outside the factory

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7
3.1 General definitions 7
3.2 Definitions concerning equipment 8

4 List of significant hazards 9
4.1 General 9
4.2 During transportation 9
4.3 During loading and unloading 10
4.4 Flat glass transport by in-loader 11

5 Safety requirements and/or protective measures 11
5.1 General 11
5.2 General requirements 12
5.3 Angle of lean 12
5.4 Glass-retaining systems 12
5.5 Bearers and cladding materials 13
5.6 Special transport systems 13
5.6.1 In-loader vehicle 13
5.6.2 Frail on truck and van 15
5.6.3 Stillages and pallets 15
5.7 Vacuum lifting device 15

6 Verification of safety requirements and/or protective measures 15

7 Information for use 16
7.1 General 16
7.2 Signals and warning devices 16
7.3 Accompanying documents 16
7.4 Marking 17

Annex A (informative) Types of equipment 18

Annex B (informative) Guidelines for the glass-retention devices 21

B.1 Hydraulic and pneumatic supports 21
B.2 Air bags/cushions 21
B.3 Stanchions for supports on frails 21
B.4 Protection of the belt against glass impacts by means of an edge protection 21
B.5 Straps 21

Annex C (informative) Symbols for labels and signs 22

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU-Directive 98/37/EC 23

Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 24

Bibliography 25

Figures Figure A.1 -- Frail, fitted to a van 18

Figure A.2 -- Frail with a changeable angle of lean 19

Figure A.3 -- Frail with movable feet to secure the angle of lean during loading/unloading 19

Figure A.4 -- In-loader vehicle 20

Figure C.1 -- Warning of hand injuries 22

Figure C.2 -- Trespassing prohibited 22

Tables Table 1 9

Table 2 10

Table 3 11

Table 4 16