

DIN EN 13035-1:2008-06 (E)

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 1: Storage, handling and transportation equipment inside the factory

Contents		Page
Foreword		3
Introduction		4
1	Scope	4
2	Normative references	4
3	Terms and definitions	6
4	List of significant hazards	8
5	Safety requirements and/or protective measures	10
5.1	General	10
5.2	Mechanical strength	10
5.3	Angle of lean	11
5.4	Retention of glass	11
5.5	Cladding materials	13
5.6	Tow bars	13
5.7	Stability of storage equipment	13
5.8	Vacuum-lifting device for use inside the factory	16
5.9	Other hazards	17
6	Verification of safety requirements and/or protective measures	18
7	Information for use	18
7.1	General	18
7.2	Signals and warning devices	18
7.3	Accompanying documents	18
7.4	Marking	19
Annex A (informative) Overview over equipment for glass storing, handling and transporting		21
Annex B (informative) Terminology		22
B.1	Referring to glass	22
B.1.1	Glass height 'H'	22
B.1.2	Glass length 'L'	22
B.1.3	Product	22
B.1.4	Cullet	22
B.1.5	Flat glass	22
B.1.6	Substance	22
B.1.7	Vent	22
B.2	Referring to storage equipment	23
B.2.1	Attitude of glass in any type of equipment	23
B.2.2	Type of equipment	24
Annex C (informative) Minimum clearances for interfacing equipment		39

C.1	Vertical supporting bearers and the grab	39
C.2	Horizontal base bearers and the grab	39
C.3	Horizontal supporting bearers and the grab	40
C.4	Interfacing structural (non supporting) equipment and handling device fingers	43
C.5	Beam-strap sling and over-the-top grab	43
Annex ZA (informative)	Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	46
Annex ZB (informative)	Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	47
Bibliography		48