DIN EN 14973:2018-05 (E)

Conveyor belts for use in underground installations - Electrical and flammability safety requirements

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Ignition hazard assessment 8

5 Electrical resistance 8

6 Frictional heating 8
6.1 Conveyor belts intended for general use in underground installations (Class A), and for use in hazardous installations where secondary safety devices are present (Classes B2 and C2) 8
6.2 Conveyor belts intended for use in installations where there is a potentially flammable atmosphere and where secondary safety devices are not present (Class B1) 8
6.3 Conveyor belts intended for use in installations where there is a potentially flammable atmosphere plus combustible dust or material conveyed, and where secondary safety devices are not present (Class C1) 9

7 Resistance to ignition 9
7.1 Conveyor belts intended for general use in underground installations (Class A), for use where there is a potentially flammable atmosphere (Classes B1 and B2), and for use in hazardous installations where secondary safety devices are present (Class C2) 9
7.2 Conveyor belts intended for use in installations where there is a potentially flammable atmosphere plus combustible dust or material conveyed, and where secondary safety devices are not present (Class C1) 9

8 Fire propagation 9
8.1 Introduction 9
8.2 Conveyor belts intended for general use in underground installations (Class A) and for use where there is a potentially flammable atmosphere (Classes B1 and B2) 10
8.2.1 General 10
8.2.2 Two metre propane burner test 10
8.2.3 Double burner test 10
8.2.4 Mid-scale high energy test 10
8.3 Conveyor belts intended for use in installations where there is a potentially flammable atmosphere plus combustible dust or material conveyed, and where secondary safety devices are not present (Class C1) 10
8.4 Conveyor belts intended for use in installations where there is a potentially flammable atmosphere plus combustible dust or material conveyed, plus additional fuel sources (fire load) and where secondary safety devices are present (Class C2) 11
8.4.1 Full scale gallery 11
8.4.2 Laboratory scale gallery 11

9 Marking 11

Annex A (informative) Hazards and risk assessment 13

A.1 Identification of hazards 13
A.2 Risk assessment 13
A.3 Methods for addressing hazards 14

Annex B (informative) Example of an ignition hazard assessment for a conveyor belt intended for use in a potentially explosive atmosphere 15

Annex C (informative) Suggested conveyor belt approval / compliance options 16

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 94/9/EC 17

Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EC Directive 2006/42/EC 18

Bibliography 19