

DIN EN 13411-3:2011-04 (E)

Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing (includes Amendment A1:2008)

Contents		Page
age	Foreword	4
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	List of hazards	7
5	Safety requirements and/or measures	8
5.1	Ferrule-secured system	8
5.1.1	General	8
5.1.2	Type testing	8
5.1.3	Instructions to be provided by the ferrule-secured system designer	10
5.2	Ferrules	10
5.2.1	Material	10
5.2.2	Dimensions	10
5.2.3	Manufacture and quality control of ferrule	10
5.2.4	Certificate	11
5.2.5	Marking	11
5.3	Ferrule-securing	11
5.3.1	General	11
5.3.2	Matching of ferrule to wire rope	11
5.3.3	Forming the eye	11
5.3.4	Pressing the ferrule	13
5.3.5	Quality control after pressing of the ferrule	13
6	Verification of the safety requirements and/or measures	14
6.1	Qualification of personnel	14
6.2	Tensile type test (FSET system designer)	14
6.3	Fatigue type test (FSET system designer)	14
6.4	Fatigue type test of Flemish eye ferrule-secured termination of crane hoist rope (FSET system designer)	14
6.5	Ferrule dimensions before pressing (Ferrule manufacturer)	14
6.6	Manufacture and quality control of ferrule (Ferrule manufacturer)	14
6.7	Ferrules (FSET or ferrule-secured endless loop manufacturer)	14
6.8	Matching of ferrule to wire rope (FSET or ferrule-secured endless loop manufacturer)	14
6.9	Forming the eye (FSET or ferrule-secured endless loop manufacturer)	15
6.10	Pressing the ferrule (FSET or ferrule-secured endless loop manufacturer)	15
6.11	Quality control after pressing the ferrule(s) (FSET or ferrule-secured endless loop manufacturer)	15
7	Information for use	15
7.1	Marking	15
7.2	Certificate	15
Annex A	(informative) Specification for one design of turn-back eye ferrule-secured termination	16
A.1	General	16
A.2	Types of terminations	16

A.3	Ropes for this design of ferrule	18
A.3.1	General	18
A.3.2	Rope types	18
A.3.3	Metallic cross sectional area factor	18
A.3.4	Rope grade	18
A.3.5	Types of rope lay	18
P	A.4 Tubing	18
A.4.1	General	18
A.4.2	Material	18
A.4.3	Straightness	18
A.4.4	Wall thickness	19
A.5	Identification and dimensions of ferrules (unpressed)	19
A.6	Matching wire rope to ferrule	22
A.7	Making the eye termination	25
A.7.1	Positioning of ferrule (Types A and B)	25
A.7.2	Pressing the ferrule	25
A.7.3	Ferrules after pressing	25
A.8	Information for use	27
A.8.1	Identification marks	27
A.8.2	Temperature limits	27
Annex ZA (informative) !!!!Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC""""		28
Annex ZB (informative) !!!!Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC""""		29
Bibliography		30