DIN EN 15689:2010-04 (E)

Railway applications - Track - Switches and crossings - Crossing components made of cast austenitic manganese steel

Contents

Page

Foreword 3

1 Scope 4

2 Normative references 4

3 Terms and definitions 5

4 Quality systems 5

5 Sample approval 5

6 General requirements 6
6.1 Materials (liquid chemistry) 6
6.2 Microstructure 6
6.3 Surface conditions 6
6.3.1 Un-machined and heat treated surfaces 6
6.3.2 Definition of surface zones 7
6.3.3 Machined surfaces 7
6.3.4 Tolerances 7
6.4 Internal soundness 8
6.4.1 General 8
6.4.2 Definition of zones and acceptance levels 8
6.4.3 Frequency for radiographic examination 12
6.5 Foundry practice 12

7 Acceptance tests 13
7.1 Chemical analysis 13
7.2 Impact bend 13
7.3 Metallographic examination 13
7.4 Visual inspection 13
7.5 Dye penetrant testing 13
7.6 Radiography 14
7.6.1 General 14
7.6.2 Method of radiography 14

8 Additional requirements for pre-hardened crossings 14
8.1 Qualification 14
8.1.1 Generally 14
8.1.2 Dye penetration test 14
8.1.3 Hardness requirements 14
8.2 Production tests 16
8.3 Monitoring of pre-hardening process 16

9 Weld rectification of surface discontinuities 16
9.1 Qualification of the weld procedure and the welder 16
9.2 Definition of rectification zones, max. dimensions of excavations 16
9.3 Testing of weld rectification 17
9.4 Welding records 17

10 Identification and marking 17

11 Documentation 18

12 Non-common cast manganese crossings 18

Bibliography 19