

# DIN EN 14038-1:2016-10 (E)

## Electrochemical realkalization and chloride extraction treatments for reinforced concrete - Part 1: Realkalization

---

Contents	Page
European foreword .....	4
Introduction .....	5
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 General .....	7
4.1 Quality management systems .....	7
4.2 Personnel .....	7
5 Principle .....	7
6 Assessment and repair of the structure .....	8
6.1 General .....	8
6.2 Review of records .....	8
6.3 Inspection .....	8
6.4 Carbonation depth measurement .....	8
6.4.1 General .....	8
6.4.2 Determination of chloride content .....	8
6.5 Concrete cover thickness and reinforcement location measurements .....	9
6.6 Alkali aggregate reaction .....	9
6.7 Reinforcement continuity and size .....	9
6.8 Repair .....	9
6.8.1 General .....	9
6.8.2 Concrete removal .....	9
6.8.3 Reinforcement preparation .....	9
7 Materials and apparatus .....	10
7.1 Calibration of instrumentation .....	10
7.2 Anode system .....	10
7.2.1 General .....	10
7.2.2 Anode .....	10
7.2.3 Anode zone .....	10
7.2.4 Alkaline electrolyte solution .....	10
7.3 Electric cables .....	10
7.4 Power supply .....	11
8 Installation procedures .....	11
8.1 Electrical continuity of reinforcement .....	11
8.2 Performance monitoring .....	11
8.3 Installation of anode system .....	11
8.4 Protection of electrolyte solution .....	12
8.5 Electrical installation .....	12
8.6 Preliminary testing and documentation .....	12
9 Commissioning, operation and termination of treatment .....	12
9.1 Visual inspection .....	12

9.2	Energizing and adjustment of current output .....	12
9.3	Routine inspection and maintenance .....	12
9.4	Realkalization process monitoring .....	13
9.5	Termination of treatment .....	13
10	Final report .....	13
11	Post-treatment coating and monitoring .....	14
	<b>Bibliography .....</b>	<b>15</b>