

# ISO 5091-4:2023-07 (E)

## Structural intervention of existing concrete structures using cementitious materials - Part 4: Jacketing

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Investigation of existing structure .....	2
4.1	General .....	2
4.2	Investigation .....	2
4.2.1	Investigation using documents, records .....	2
4.2.2	On-site investigation .....	3
5	Intervention design .....	3
5.1	General .....	3
5.2	Structural plan .....	3
5.3	Structural details .....	3
6	Materials .....	4
6.1	General .....	4
6.2	Materials in existing structure .....	4
6.3	Materials used in repairing or strengthening parts .....	4
6.3.1	General .....	4
6.3.2	Cementitious materials .....	5
6.3.3	Reinforcing materials .....	6
6.3.4	Bonding products .....	6
6.3.5	Filling materials .....	7
6.4	Characteristic values and design values of materials .....	7
6.4.1	General .....	7
6.4.2	Cementitious materials .....	7
6.4.3	Reinforcing materials .....	7
6.4.4	Bonding products .....	7
7	Actions .....	7
7.1	General .....	7
7.2	Actions for intervention design .....	7
8	Performance verification for repaired or strengthened structure .....	7
8.1	General .....	7
8.2	Calculation of response values .....	8
8.2.1	General .....	8
8.2.2	Modelling of structure .....	8
8.2.3	Structural analysis .....	8
8.2.4	Calculation of response .....	8
8.3	Durability verification .....	8
8.4	Safety verification .....	8
8.4.1	General .....	8
8.4.2	Verification related to failure .....	9

8.5	Serviceability verification .....	10
8.5.1	General .....	10
8.5.2	Verification related to appearance .....	10
8.5.3	Verification related to vibration .....	10
8.5.4	Verification related to displacement and deformation .....	10
8.6	Seismic performance verification .....	10
8.7	Structural details .....	10
8.7.1	Arrangement of reinforcing materials and spacing of reinforcing steel .....	10
8.7.2	Covering and jacketing thickness of reinforcing materials .....	11
8.7.3	Joints for lateral reinforcing materials .....	11
8.7.4	Anchorage of longitudinal reinforcement to footings .....	11
8.7.5	Intermediate penetrating tie .....	11
9	Construction .....	11
9.1	General .....	11
9.2	Prior investigation and construction plan .....	12
9.3	Surface treatment .....	13
9.4	Assembly of reinforcing materials .....	13
9.5	Execution of concrete jacketing .....	14
9.6	Execution of mortar jacketing .....	14
9.6.1	Surface preparation .....	14
9.6.2	Storage, mixing and transportation of jacketing materials .....	14
9.6.3	Execution of mortar jacketing .....	14
9.6.4	Curing .....	14
9.7	Surface protection .....	15
9.8	Quality control .....	15
9.9	Inspection .....	15
10	Records .....	15
11	Maintenance .....	15
Annex A (informative)	Examples of design and execution .....	16