ISO 14484:2013-04 (E)

Performance guidelines for design of concrete structures using fibre-reinforced polymer (FRP) materials

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Design basics 2
4.1 General 2
4.2 Design methodology 2

5 Properties of materials 2
5.1 Properties of concrete and steel 2
5.2 Properties of FRP materials 2
5.3 Resins 3

6 Structural analysis 3

7 Serviceability limit states 3
7.1 General 3
7.2 Calculation of stress and strain 3
7.3 Cracking 4
7.4 Deflections 4

8 Ultimate limit states 4
8.1 General 4
8.2 Axial and flexural capacity 4
8.3 Shear capacity 5

9 General structural details 5
9.1 FRP reinforcements/tendons 5
9.2 Externally bonded FRP sheets/plates 6
9.3 Near-surface mounted FRP reinforcement 6