ISO 10972-1:2025-02 (E)

Cranes - Requirements for mechanisms - Part 1: General

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 General 3
4.1 Design criteria 3
4.1.1 General design and layout 3
4.1.2 Criteria for strength of components 3
4.2 Power 3
4.3 Couplings 4
4.3.1 General 4
4.3.2 Clutches 4
4.4 Brakes 4
4.4.1 General 4
4.4.2 Hoist brake 5
4.4.3 Travel and slewing brake 5
4.5 Out-of-service requirements 5
4.6 Hydraulic and pneumatic systems 5
4.6.1 General 5
4.6.2 Hydraulic reservoir 6
4.6.3 Filters 6
4.6.4 Installation 6
4.7 Gear drives 6
4.7.1 Strength requirements 6
4.7.2 Gears 7
4.7.3 Gear enclosures 7
4.7.4 Bearings and supports 7
4.8 Rope drive requirements 8
4.8.1 General 8
4.8.2 Drums 8
4.8.3 Sheaves 8
4.8.4 Ropes 9
4.9 Chain drive requirements 9
4.9.1 General 9
4.9.2 Chains 9
4.9.3 Chain guides 9
4.9.4 Chain mountings 9
4.10 Shafts 10
4.11 Load lifting attachment requirements 10
4.11.1 General 10
4.11.2 Hooks 10

5 High-risk applications 11
5.1 General 11
5.2 Additional requirements for the transportation of hot molten metal or similar hazardous materials 11
5.2.1 Rope drives 11
5.2.2 Rope systems 11
5.2.3 Other requirements 11

Bibliography 12