

ISO 7176-8:1998-07 (E)

Wheelchairs - Part 8: Requirements and test methods for static, impact and fatigue strengths

Contents	Page
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Requirements	2
4.1 Strength requirements	2
4.2 Disclosure requirements	3
5 Test apparatus	3
6 Preparation of test wheelchair	9
6.1 Equipping the wheelchair	9
6.2 Inflation of pneumatic tyres	10
6.3 Adjustments	10
6.4 Test dummies	11
6.5 Records	12
7 Sequence of tests	12
8 Test methods for static strength	12
8.1 Principle	12
8.2 Wheelchair preparation	12
8.3 Selection of loading pad	13
8.4 Armrests: resistance to downward forces — Test method	13
8.5 Footrests: resistance to downward forces — Test method	14
8.6 Tipping levers — Test method	16
8.7 Handgrips — Test method 1	8
8.8 Armrests: resistance to upward forces— Test method	20
8.9 Footrests: resistance to upward forces— Test method	22
8.10 Push handles: resistance to upward load — Test method	24
8.11 Records	24
9 Test methods for impact strength	26
9.1 Principle	26
9.2 Wheelchair preparation	26
9.3 Backrest: resistance to impact — Test method	26
9.4 Handrim: resistance to impact — Test method	27
9.5 Castors: resistance to impact — Test method	28
9.6 Footrests: resistance to impact — Test method	30
9.7 Front structure: resistance to impact — Test method	31
9.8 Records	32
10 Fatigue tests — Test method	34
10.1 Principle	34
10.2 Preparation of test wheelchair for fatigue tests	34
10.3 Restraints of test dummy	34

10.4	Two-drum test	36
10.5	Drop test	37
10.6	Records.....	38
11	Evaluation of test results	38
12	Test report	38
Annex A (informative) Principles applied to derive static test loads		40
Annex B (informative) Design considerations.....		48
Annex C (informative) Derivation of pendulum swing angle for castor and footrest impact tests		49
Annex D (informative) Derivation of pendulum centre of percussion		52
Annex E (informative) Tracking characteristics of wheelchairs		54