

ISO 7176-19:2022-04 (E)

Wheelchairs - Part 19: Wheelchairs for use as seats in motor vehicles

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Design requirements and recommendations	9
4.1	General	9
4.2	Wheelchair securement	9
4.3	Occupant restraints	9
4.3.1	Accommodation of vehicle-mounted three-point belt restraints	9
4.3.2	Wheelchair-mounted occupant restraints	9
4.4	Wheelchair head and back supports for small children	10
4.5	Risk management in modifying wheelchairs that conform to this document	10
5	Performance requirements and recommendations	10
5.1	General	10
5.2	Frontal impact	10
5.3	Accessibility of securement points intended for use with strap-type tiedowns	12
5.4	Clear paths for strap-type tiedowns	12
5.5	Accommodation of vehicle-mounted belt restraints	12
5.6	Wheelchair-mounted belt restraints	13
6	Identification, labelling, user instructions, warning, and disclosure requirements and recommendations	13
6.1	General	13
6.2	Identification and labelling	13
6.3	Presale literature	14
6.4	User and maintenance instructions	15
7	Documentation of conformance	18
7.1	General	18
7.2	Frontal impact test	18
7.3	Design, labelling, and literature requirements	19
Annex A (normative)	Method for frontal impact test	20
Annex B (normative)	Specifications for securement points on wheelchairs intended for attachment of four-point strap-type tiedowns	29
Annex C (normative)	Method for testing accessibility and tiedown clear paths of wheelchair securement points intended for attachment of four-point strap-type tiedowns	33
Annex D (normative)	Methods for rating wheelchair accommodation of vehicle-mounted occupant belt restraints	42
Annex E (normative)	Specifications for Surrogate Wheelchair Tiedown and Occupant Restraint System (SWTORS) with four-point strap-type tiedown and three-point belt restraint	48

Annex F (informative) Specifications for wheelchair Universal Docking Interface Geometry (UDIG)	61
Annex G (informative) Wheelchair design, performance, and labelling recommendations for improved protection of occupants seated facing forward in wheelchairs during rear impacts	66
Annex H (normative) Design and performance requirements for five-point harness restraints for children less than 23 kg	75
ISO 7176-19:2022(E) Annex I (informative) Performance considerations for five-point harness restraints for children less than 23 kg	77
Annex J (informative) Design and performance requirements for wheelchair-mounted occupant restraints for use by people with body mass equal to or greater than 23 kg	78
Annex K (normative) Requirements and recommendations when providing more than four securement points	84
Annex L (informative) Checklist of requirements	87
Annex M (informative) Indication of main values in imperial units	89
Bibliography	90