

## Test Results Summary ISO 7176

<b>Test No:</b> S16655 (20/1071) <b>Test Date:</b> 30 <sup>th</sup> June 2020 <b>Test Facility:</b> Millbrook Servo Sled Millbrook Proving Ground Ltd Bedford MK45 2JQ <b>Client:</b> Karma Mobility Limited <b>WC Model:</b> Soma Agile HM20-019686 <b>Mass (kg):</b> 15kg <b>Head Restraint:</b> N/A <b>Occupant:</b> 95 <sup>th</sup> Ballast 103kg <b>Wheelchair tie downs:</b> Unwin Tie downs OR-02 <b>Material:</b> Polyester <b>Width:</b> 46.5mm <b>Max. load:</b> 2647 daN <b>Occupant Restraint:</b> Surrogate 3 point restraint	<b>RESULTS</b>
a) Did the wheelchair securement points show any sign of material failure other than deformation or yielding	PASS
b) Did any securement point deformation or distortion prevent manual removal of the wheelchair tie-down system	PASS
c) Was the wheelchair in an upright position on the test platform	PASS
d) Did the ATD remain in a seated posture at the end of the test (with a torso angle less than 45° to the vertical when viewed from any direction)	PASS
e) Did any rigid components, parts, equipment or accessories in excess of 150g detach during the test (related to the test article)	PASS
f) Did any occupant contactable components fragment or separate with an edge less than 2mm	PASS
g) Did any of the primary load carrying parts and components show visible signs of structural failure other than deformation or loading	PASS
h) Horizontal ATD wheelchair excursion limits as per limits shown in table 3 of 5.3.2:	
Was the horizontal movement of the test wheelchair P-Point (Xwc) less than 200mm (±5mm)	PASS 47mm
Was the horizontal movement of the dummy knee (Xknee) less than 375mm (±5mm)	PASS 315mm
Was the horizontal movement of the dummy head (Xheadf) less than 650mm (±5mm)	PASS 449mm
Was the rear head excursion (Xheadr) less than -450mm (±5mm)	PASS 350mm
i) Was the ratio Xknee/Xwc > 1.1	6.7
j) Did any locking mechanisms of tilt seating systems release or have structural components that released during the test	N/A
k) Was the average decrease of H-Point height relative to the wheelchair platform less than 20% of the pre test height	PASS
l) Did the seating insert (seat or back support) detach from the wheelchair during the test	PASS

# Test Report



m) Did the batteries of powered wheelchairs, or their surrogate parts:-	N/A
i) Not move completely outside the wheelchair footprint	N/A
ii) Remain attached or tethered to the battery compartment throughout the test	N/A
iii) Move into the wheelchair users space	N/A
n) Did any of the tiedown and occupant restraint system fail due to interaction with the wheelchair or its components during the test	PASS
o) Did all securement hooks remain attached to the wheelchair's securement points throughout the test and remain attached at the end	PASS
p) Did the wheelchair-anchored belt restraints become detached at anchorages, disconnect at buckles, or show complete failure	PASS
<b>ISO 7176</b> Crash Test criteria were fulfilled.	<b>PASS</b>

\*Observation Made after test that the Battery retaining clamp had come undone during test, battery was still within the structure of the wheelchair and had not become projectile or damaged during the test.