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WorldSID 50th ATD Certification Update

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Service Bulletin

The ISO WorldSID Task Group has recently reviewed certification test corridors for the WorldSID 50th ATD during their regular session meetings in 2012 and 2013 and have updated their recommendations.

Summary

The ISO WorldSID Task Group has completed a review of all the current certification corridors of the WorldSID 50th ATD. The Task Group agreed that the changes in certification outlined in this bulletin are necessary improvements to the test parameters. All certification changes take effect immediately in all new production and re-certifications.

Corridor and Test Updates

The Task Group first updated corridors for the head drop and pelvis impact in August of 2012. The shoulder, abdomen and thorax were later reviewed resulting in the elimination of the Thorax Impact with Arm test in September of 2013. The table below lists these most recent changes.

All newly manufactured WorldSID 50th ATDs will be certified to the updated corridors as outlined by the ISO WorldSID Task Group.* Older components due for re-certification will be tested to the new criteria and corridors.

Humanetics will make any future adjustments in WorldSID certification requirements should new recommendations by the Task Group become available.

WorldSID 50th ATD Certification Updates

	Specification	Old	New
Head (W50-14014)	Frontal Drop Lateral Drop	225-275 g's 99-121 g's	205 – 255 g's 104 – 123 g's
Thorax Impact with Arm	*Remove Test from Certification Requirements*		
Pelvis (W50-42019)	Probe Force Lateral Pelvis Acceleration	6.4 – 7.8 kN 41 – 51 g's	6.8 – 8.2 kN 37 – 47 g's

*Please see accompanying page, *Technical Specifications*, for a complete up-to-date list of WorldSID 50th ATD certification test corridors.

For further inquiries please contact Humanetics Customer Service or your account manager.

Technical Specifications

Certification Test Corridors for the WorldSID 50th ATD

Head Drop - Frontal	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Resultant Acceleration (G)	205 - 255
Peak Lateral Acceleration (G)	< 15
Unimode (%)	< 10

Neck Pendulum Test - Lateral	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Pendulum Velocity (m/s)	3.4 ± 0.1
Pendulum Velocity change (m/s) 4 m/s 8 m/s 12 m/s	 0.77 - 1.04 1.60 - 1.90 2.43 - 3.29
Maximum Angular Displacement Of The Head-form Relative To The Pendulum, Beta (Degrees)	50-61
Decay Time Of Beta To 0 Degree (ms)	58 - 72
Peak Moment At Occipital Condyle (Nm)	55 - 68
Peak Moment Decay Time To 0 Nm (ms)	71 - 87
Peak Forward Potentiometer Angular Displacement (Degrees)	32 - 39
Time Of Peak Forward Potentiometer Angular Displacement (ms)	56 - 68
Peak Rearward Potentiometer Angular Displacement, Theta_f (Degrees)	30 - 37
Time Of Peak Rearward Potentiometer Angular Displacement, Theta_r (ms)	56 - 68
Note: T=0 S At Initial Pendulum Contact With The Honeycomb.	

Shoulder	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Velocity (m/s)	4.3 ± 0.1
Peak Pendulum Force (KN)	2.60 - 3.30
Peak Shoulder Rib Deflection (mm)	35 - 45

Thorax Without Arm	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Velocity (m/s)	4.3 ± 0.1
Peak Pendulum Force (KN)	3.2 - 3.8
Peak Thorax Rib 1 Deflection (mm)	33 - 43
Peak Thorax Rib 2 Deflection (mm)	35 - 43
Peak Thorax Rib 3 Deflection (mm)	32 - 40
Peak T4 Acceleration Along Y Axis (G)	14 - 20
Peak T12 Acceleration Along Y Axis (G)	14 - 22

Head Drop - Lateral	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Resultant Acceleration (G)	104 - 123
Peak Lateral Acceleration (G)	< 15
Unimode (%)	< 10

Abdomen	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Velocity (m/s)	4.3 ± 0.1
Peak Pendulum Force (KN)	2.7 - 3.1
Peak Abdomen Rib 1 Deflection (mm)	33 - 40
Peak Abdomen Rib 2 Deflection (mm)	30 - 36
Peak T12 Acceleration Along Y Axis (G)	15 - 20

Pelvis	ISO 15830
Temperature (°C)	20.6 - 22.2
Humidity (%)	10 - 70
Velocity (m/s)	6.7 ± 0.1
Peak Pendulum Force (KN)	6.8 - 8.2
Peak Pelvis Acceleration (G)	37 - 47
Peak T12 Acceleration Along Y Axis (G)	10 - 14

Filter Class	ISO 15830
Head Drop Test	
Acceleration Ax, Ay, Az	CFC 1000
Neck Pendulum Test	
Pendulum Acceleration	CFC 60
Angular Displacement	
Theta F	CFC 1000
Theta R	CFC 1000
Theta H	CFC 1000
Moment Mx	CFC 600
Force Fy	CFC 1000
Shoulder Test	
Pendulum Acceleration	CFC 180
Shoulder Rib Deflection	CFC 600
Thorax Without Arm	
Pendulum Acceleration	CFC 180
Thorax Rib 1, 2 And 3 Deflection	CFC 600
T4 Acceleration	CFC 180
T12 Acceleration	CFC 180
Abdomen Test	
Pendulum Acceleration	CFC 180
Abdomen Rib 1 And 2 Deflection	CFC 600
T12 Acceleration	CFC 180
Pelvis Test	
Pendulum Acceleration	CFC 180
Pelvis Acceleration	CFC 180
T12 Acceleration	CFC 180

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