

## **ISWP Standards Working Group**

### **May 12, 2015 Meeting Recap**

The ISWP Standards Working Group met by conference call on Tuesday, May 12, 2015 from 12:00 p.m. to 1:00 p.m. U.S. Eastern Time. This document provides objectives, action items and a recap.

#### **Objectives**

1. Discuss test methods that each subgroup of the Standards WG came up with.  
Following are the subgroups:
  - a. Design Guidelines (Mark, interim lead)
  - b. Casters (Anand leading)
  - c. Rolling Resistance (Matt leading)
  - d. Corrosion (No leader)

#### **Action Items**

1. Someone from the working group to lead subgroups of design guidelines (Mark is interim leader) and corrosion (maybe Matt).
2. Define scope of how design guidelines will be utilized and who will be referring to it/who will it appeal to. Have outside source(s) review.
3. The WG may consider testing reliability of the whole WC on a track.
4. Jon Pearlman to contact Lee Kirby for EBP group for work on comparing chairs for stability and terrain handling.
5. Jon Pearlman to inform on Axelson's tests on surface softness/hardness.

#### **Discussion**

1. Casters - The group discussed tests found by the casters subgroup.
  - a. The tests were suggested for impact testing, durability, abrasion, flutter, rollability, aging, corrosion and ultimate failure.
  - b. Issues noted with caster tests
    - Bounce off from the rolling surface during testing. Casters need damping during test.

- Impact test is not simulating exactly what is seen in the field (not a mandatory test).
- Double drum tests not simulating real world environments
- Tests within a salt water environment possibly.

## 2. Rolling Resistance

- a. A lot of variance observed between different types of tires on different surfaces. Hence, looking to develop tests with different combinations of tires and surfaces.
- b. Discussed on individual wheel test versus system test
  - Ramp testing preferred to measure distance, time until stop. Issue with inertia of system coming into play (not sure if it is important as we are testing the entire chair performance here).
  - Tests discussed for individual rear wheel testing that were shared by the subgroup

### **Subgroups** (for reference)

- Design Guidelines: Mark Sullivan (interim lead), Daniel Martin, Jon Pearlman, Norman Reese, Chris Rushman, Eric Wunderlich
- Casters: Anand Mhatre (lead), Matt McCambridge, Jon Pearlman, Norman Reese, Don Schoendorfer
- Corrosion: Matt McCambridge, Don Schoendorfer
- Rolling Resistance: Matt McCambridge (lead), Jon Pearlman

## **Participants**

- ✓ Daniel Martin, Shonaquip
- ✓ Matt McCambridge: DEKA (formerly with Whirlwind)
- ✓ Norman Reese, LeTourneau University
- ✓ Karen Rispin, LeTourneau University
- ✓ Mark Sullivan, Convaid, Ride Designs and Polus Center (WG Chair)
- ✓ Don Schoendorfer, Free Wheelchair Mission
- ✓ Karl-Erik Westman, Handicap International
- ✓ Eric Wunderlich, LDS Church
- ✓ Chris Rushman, Motivation
- ✓ Dave Mahilo, Invacare
- ✓ Dr. Rory Cooper, University of Pittsburgh
- ✓ Anand Mhatre, University of Pittsburgh
- ✓ Dr. Jonathan Pearlman, University of Pittsburgh
- ✓ Nancy Augustine, University of Pittsburgh

Prepared by: Anand Mhatre, University of Pittsburgh