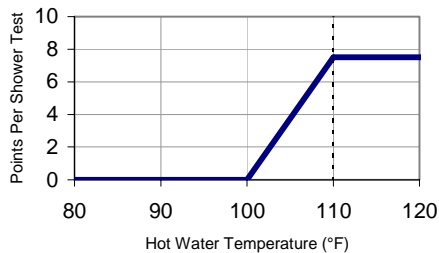


## Contest 7: Hot Water

### *Shower Tests (75 pts):*

Each day during the Contest Week, two “shower tests” will be performed. There will be one shower test in the morning and one in the afternoon, for a total of 10 shower tests during the Contest Week. Teams may earn up to 7.5 points for each successful shower test. For each test, the team must deliver at least 15 gallons (U.S.) (56.8 liters) of hot water in no more than 10 minutes to qualify for points. Maximum points are earned by delivering an average temperature of at least 110°F (43.3 °C). An average temperature below 100°F (37.8 °C) earns no points. For temperatures between 100°F (37.8 °C) and 110°F (43.3 °C), the number of points is scaled linearly, as shown in the graph below.



Maximum points per shower test:	7.5000 points
Full Points:	Temperature $\geq$ 110 °F ( 43.3 °C )
Reduced Points:	100 °F ( 37.8 °C ) < Temperature < 110 °F ( 43.3 °C )
No Points:	Temperature $\leq$ 100 °F ( 37.8 °C )

### *Comprehensive Assessment of Hot Water System (25 pts):*

The Hot Water Panel of Judges will evaluate the following aspects of the hot water system that are not evaluated by the shower tests:

- Design and implementation of technologically or economically (or both) innovative ideas
- Ability of the system to efficiently meet typical hot water loads throughout the year in the Washington, D.C., climate
- Intelligent integration and proper sizing of the system components
- Ability of the system to efficiently meet greater than usual loads when guests are present or water use is unusually high for a short period of time
- Use of energy-efficient collection, storage, and delivery strategies
- Frequency and ease of required maintenance
- Noise generation
- Ability to deliver hot water immediately to a load without a warm-up period

*Note: The term “hot water system” may include but is not limited to the following components: collector (or other water heating device), storage, distribution, controls, and fixtures.*

<b>Contest Activity</b>	<b>Points Available</b>
Shower Tests	75
Comprehensive Assessment of Hot Water System	25
<b>TOTAL</b>	<b>100</b>