

Ice Measurement and Safety Manual

Purpose: To ensure the safety of all participants, staff, and equipment during ice driving events by following systematic protocols for measuring ice thickness and quality.

Ice Safety Guidelines

Based on the Wisconsin Department of Natural Resources (DNR) recommendations:



Under 4 inches

Unsafe for any activity.



4 inches

Suitable for ice fishing or walking.



5-7 inches

Supports snowmobiles or small ATVs.



7-8 inches

Safe for side-by-side ATVs.



8-12 inches

Necessary for cars or small pickups.



12-15 inches

Required for medium trucks.



Note: These guidelines assume clear, solid ice. Always assess additional factors such as temperature changes, snow cover, currents, and springs.

Measurement Schedule

1. **Pre-Event Inspections:** Measure ice thickness and quality prior to the start of each event season.
2. **Weekly Inspections:** Conduct weekly ice measurements during the event season.
3. **Temperature-Triggered Inspections:** Measure ice whenever temperatures rise above freezing to assess impact on ice integrity.

Measurement Protocol

1. Equipment Preparation:

- Utilize the PLT radar system as outlined in the "Isradarinstruktion PLT 600" manual.
 - Charge radar unit (2-3 hours for full charge).
 - Ensure GPS connectivity and proper calibration.
 - Set depth parameters to capture maximum expected ice thickness.
- Verify radar and data storage setup on the Android device using the ViewPoint app.

2. Data Collection:

- Mount radar on a vehicle (40-50 cm above ice) or directly on the ice.
- Conduct measurements systematically, checking ice thickness at least every 150 feet across the area.
- Mark any anomalies or potential hazards during data collection.

3. Verification:

- Validate radar measurements with physical drill testing at multiple points.
- Pay special attention to transitions in ice thickness or areas of visible change in ice conditions.

4. Documentation:

- Save and label data files with project name and date.
- Archive results in a structured folder system for analysis and comparison.



Ice Quality Standards and Post-Measurement Actions

Ice Quality Standards for Event Approval

For ice driving events, a **minimum thickness of 8-12 inches of clear, solid ice** is required to safely support cars or small pickups. Thickness measurements must meet this standard consistently across the designated driving area.

Post-Measurement Actions

- Review collected data using Geolitix software for detailed analysis.
- Address any areas of concern (e.g., thin ice, cracks) identified during measurements.
- Re-measure as necessary if conditions change significantly or if anomalies are detected.

Contact Information:

For any questions or issues related to ice measurements, contact Ice Driving USA LLC Safety Team.

Rob Hicks

rob@icedrivingusa.com

+1 715-891-0809

