



The Toro Company

## UN 38.3 Lithium Ion Battery Test Summary

### Cell, Battery or Product Model Number

**Item number:** Toro 144-0250

**Item description:** BATTERY-LI ION, 60V 42.5 AH [2346 Wh]

### Cell, battery or product manufacturer's contact information

**Name:** The Toro Company

**Address:** 8111 Lyndale Avenue South

**City:** Bloomington **State:** Minnesota **ZIP:** 55420-1196 **Country:** USA

**Telephone:** (952) 888-8801

**Email:** HealthandSafety@toro.com

**Website:** <https://www.toro.com/>

### Test Laboratory

**Name:** SGS North America

**Address:** 620 Old Peachtree Road, Suite 100

**City:** Suwanee **State:** Georgia

**ZIP:** 30024

**Country:** USA

### Cell or Battery Description

**Cell or Battery:** 60 V / 42.5 Ah **Nominal voltage:** 55.2

**Cell or Battery Type:** Lithium Ion

**Watt-hour Rating or Lithium Content:** 2346 Wh

**Complete Cell or Battery Weight:** 13700 g

**Unique Test Report ID Number:** 4698394

**Date of Test Report:** 02/12/2021

**Physical Description:** Black plastic cover 135 cells with 15 series / 9 parallel

**Finished Assembly:** W: 445 mm H: 89 mm L: 361 mm

### List of Tests Completed

| YES                                         | NO |                                  | Pass | Fail | Additional comments (or indicate compliance with other stds.) |
|---------------------------------------------|----|----------------------------------|------|------|---------------------------------------------------------------|
| X                                           |    | Test T.1: Altitude simulation    | X    |      | 38.3.4.1 T1                                                   |
| X                                           |    | Test T.2: Thermal test           | X    |      | 38.3.4.2 T2                                                   |
| X                                           |    | Test T.3: Vibration              | X    |      | 38.3.4.3 T3                                                   |
| X                                           |    | Test T.4: Shock                  | X    |      | 38.3.4.4 T4                                                   |
| X                                           |    | Test T.5: External short circuit | X    |      | 38.3.4.5 T5                                                   |
|                                             | X  | Test T.6: Impact/ Crush          |      |      | N/A (cell level)                                              |
|                                             | X  | Test T.7: Overcharge             |      |      | N/A*                                                          |
|                                             | X  | Test T.8: Forced discharge       |      |      | N/A (cell level)                                              |
| Revision level and Amendments of UN Manual: |    |                                  |      |      | UN Manual Test and Criteria, Revision 7                       |

\*T7: Exempt per UN 38.3.3(d) – Overcharge Protection provided by the Toro equipment into which the battery is installed

Signature with name and title of signatory as an indication of the validity of information provided:

Rolfe Otterness, Principal Standards Engineer, The Toro Company

Date: February 13, 2021