



How to Specify the TS45

1. Sign Materials - Construction - Compliance

- a. Sign reflective sheeting in compliance with current MUTCD requirements for reflectivity, wording, materials and mounting guidelines.
b. Pole mounting requirements per MUTCD guidelines.
c. Sign constructed of .080 aluminum with stainless / aluminum fasteners and weatherproof sealant.
d. All mounting hardware fasteners shall be theft deterrent hardware preferably Tufnut security hardware where applicable.
e. 3/8" x 3" stainless steel tap bolts for standard mounting hardware (other mounting options available).
f. Cabinet: Sealed, weatherproof polycarbonate enclosure houses the circuit board, battery, and internal electronic components, with an integrated weep hole to allow moisture drainage and minimize internal condensation.
g. Security keyed ON/OFF switch located on side of cabinet controlling operation.
h. Compression type solar panel connector allowing optimum directional placement of solar collector.
i. Anti-theft placards and decals for theft / vandalism deterrents.
j. Serial # plate with manufacture date for informational and warranty purposes.

2. Power Consumption

Table with 3 columns: Power Consumption, 12 Volt, 6 Volt. Rows include Full Brightness (daytime) and Dimmed (nighttime) with corresponding amperage and wattage values.

3. Battery

Table with 3 columns: Battery, 12 Volt, 6 Volt. Rows include Dimensions, Weight, Terminal Connector, Operating Temperature, and Warranty.

- a. Battery mounting with aluminum fasteners and brackets for in-field replacement after life cycle has expired.
b. Battery casing fully sealed in a moisture and corrosion proof casing.
c. Required battery replacement every 18 months from manufacture date.
d. Warranty only covers batteries supplied by Traffic Safety Corp.
e. Any damage to the sign caused by unauthorized third-party batteries will void all sign warranties.

4. Solar Panel Collector

- a. Solar panels to be 6/12 volt 15/20/30 watt collector type depending on type of sign, region, LED light quantities and application uses.

Table with 4 columns: Solar Panel Collector, 15 Watt, 20 Watt, 30 Watt. Rows include Max Power, Operating Voltage, Operating Current, Max Voltage, Operating Temperature, Dimensions, and Type.

- b. Solar panel bracket constructed of aluminum alloy.
c. Schedule 40 3/4" aluminum tubing attached to the solar panel bracket to the cabinet. Panel must face south.
d. Angle of panel shall be 45° to 65° depending on region. Special attention required to insure solar collector has good access to solar power with no obstructions for optimum operation.
e. Electrical connectors shall be insulated spade type connectors.
f. Tempered glass solar cell sealer/protector.

5. LED Lights (Light Emitting Diodes)

- a. Sign shall have a series of either 4 - 8 LEDs depending on sign size and configuration.
b. All LEDs shall be compliant to MUTCD Section 2A.07 and match colors acceptable to each type of signal per this specification.
c. LED flash rate at 50 to 60 times per minute per MUTCD Section 2A.07 requirements.
d. LED light dimensions: 1/8" Cree LED inside a 1-1/4" diameter lens.
e. 100,000 hour rated LED life (11.415 years).
f. High impact acrylic water/vibration proof housing lens.
g. Completely resin sealed lens.
h. Operating voltage: 6/12 VDC / Amp Draw 85ma.
i. Output power of LEDs approximate 60,000 mcd brightness.
j. LEDs wired in series for simultaneous flash pattern per MUTCD.
k. Wiring completely enclosed in cabinet with access for replacement.

6. Circuitry / LED Lighting Control Unit

- a. Circuit shall have a minimum of 4 output LED light circuits for use.
b. Circuit shall control flash rates at 50 to 60 times per minute.
c. Circuit shall flash 500 milliseconds / 150 milliseconds per flash.
d. Activation duration shall be field adjustable in one-second increments, over a range of 1 to 99 seconds (30 seconds standard).
e. Available dusk-to-dawn flash mode.
f. Micro-controller technology.
g. Keyed "ON/OFF" activation for tamper/vandalism protection.
h. Operation of circuit temperatures -40°C to +80°C.
i. Circuit enclosed in weatherproof cabinet.
j. Low voltage protection program (protecting from total discharge of battery).
k. All wiring connections in accordance to standard wiring protection guidelines.

7. Warranty

- 10 Year Solar Panel (excluding solar wire)
• 2 Year Sign Construction
• 2 Year LED Lights & Circuitry
• 1 Year Battery (warranty only covers batteries supplied by Traffic Safety Corp.)