

Engineering Specification for the Model 20/50 Telescoping Gate

I. Specifications

- A) Length – Overall retracted length of the Safe-Crossing Gate will measure 20'. The extended gate can measure from 20'6" up to 48'0". Extended length is specified by customer and appropriate limits are manufactured into the gate.
- B) Design – The Safe-Crossing Gate is designed in three sections, the Outer, Middle, and Inner. The Outer Gate Arm serves the purpose of housing the other two sections, the three internal cables, and all internal hardware (stops and pulleys) to extend and retract the gate arms. The Middle and Inner Gate Arms extend and retract from and to the Outer Gate Arm at a 1:1 ratio. This provides a smooth and coordinate gate arm travel as the gate goes from vertical to its fully extended horizontal position and vice versa.
- C) Weight – The Safe-Crossings Gate with lights will weigh 119 pounds +/- 2 pounds. The optional Gate Saver weighs 115 pounds.
- D) Temperature Range – All materials used in the construction of the Safe-Crossings Gate arm will operate from -20 degrees F to 160 degrees F.
- E) Lubrication – All components of the Safe-Crossings Gate are specified as self lubricating or no lubrication required. This includes all bearings and pulleys used in the manufacture of the telescoping gate.
- F) Operating Voltage – The only electronic components of the Safe-Crossing Gate are the gate arm lights. These operate at 8 – 12 VDC and are wired directly into the gate mechanism and each draw 0.45 amps.
- G) Adaptability to Existing Equipment – The Safe-Crossing Gate is designed to fit directly to any standard gate adapter. The gate is slid over the adapter and four (4) bolts secure the gate.

II. Gate Sections

- A) All three gate sections are proprietary extrusions using aluminum alloy temper 6061 with a 215R1 clear anodizing and there may be slight traffic and handling marks on the outside surfaces.
- B) The gate, when fully extended, shall withstand a side wind load of 100 mph.
- C) The Outside Section nominal dimensions shall measure 20' long and the profile shall measure 5.333" x 3.063" with a wall thickness of .125". Special channels and ribbing are designed on the interior of the gate arm to provide added strength and channels for additional hardware.
- D) The Middle Section nominal dimensions shall measure 18' long and the profile shall measure 4.597" x 1.750 with a wall thickness of .080". Special channels and ribbing are designed on the interior of the gate arm to provide added strength and channels for additional hardware.
- E) The Inner Section nominal dimensions shall measure 17' long and the profile shall measure 4.000" x 1.000 with a wall thickness of .083".

II. Bearings

- A) All bearings used in the application of this product shall be doubled shielded, type 440C stainless steel. Steel shields on both sides are designed to keep out most contaminants. Temperature range is from -20 to +350 degrees Fahrenheit.

III. Hardware

- A) All metallic fasteners which include a variety of screws, bolts, nuts, washers, etc. shall be 18-8 Stainless Steel. Rockwell hardness is B85. Minimum tensile strength is 85,000 psi.

IV. Cable

- A) The cables used in the internal operation of the gate for the purpose of extending and retracting the gate are 1/16" nominal diameter, construction is stainless steel, 7 x 19 (133 wires, 7 bundles of 19 wires each) to combine to maximize strength and flexibility. The cable is provided with a nylon coating making the overall diameter 3/32". Minimal breaking strength is 480 pounds.
- B) The cable used in the external operation of the gate for the purpose of attaching to the mast and the gate is 1/8" nominal diameter, construction is stainless steel, 7 x 19 (133 wires, 7 bundles of 19

wires each) to combine to maximize strength and flexibility. The cable is provided with a nylon coating making the overall diameter 3/16". Minimal breaking strength is 798 pounds.

V. Gate Lights

- A) All three (3) lights used on the on the Safe-Crossings gate are LED (light emitting diode) and are compliant with AREMA standard 3.2.35.
- B) The gate arm lights have an input voltage of 8 – 14 volts, a viewing angle of 70 degrees, a temperature range of -40 C to + 85 C, and current draw on each unit is 0.45 amps @ 10 VDC.
- C) The wiring of the lights to the controlling mechanism is the standard accepted wiring for all lights.

VI. Reflective Tape

- A) Both sides of the Safe-Crossings gate shall have reflective tape the entire length of the extension. Red and White diagonal stripes compliant with AREMA standards shall apply. All reflective tape shall be "Type III High Intensity".