STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIFICATION FOR PLASTIC

CHANNELIZATION DRUM

# T-31-23-2

This specification covers a plastic two-piece drum used for channelizing traffic and lane closures. The construction of the drum must be durable and capable of withstanding abuse by vehicular traffic.

MATERIAL. The top portion of the drum shall be constructed of a single layer, flexible high impact resistant, orange polyethylene or polyurethane. The base of the drum shall be made of a single piece of durable rubber. Each portion of the drum shall exhibit good workmanship, must be smooth, of uniform thickness, and be free of discoloration, bumps, ridges, or voids. The material shall maintain its shape and usefulness after repeated impacts with vehicles over a temperature range of -30° F to +125° F.

When specified, a recycled drum shall have the top portion manufactured from a minimum 16 percent post consumer waste.

CONSTRUCTION. The drum shall be a two-piece design. The base shall be approximately 3 inches high and shall fit over the top portion with enough friction to prevent separation by wind gusts, but allowing separation upon vehicular impact. The assembled height of the drum shall be not less than 36 inches.

The drum may be round, oval, or octagon in shape. The top portion may be tapered with stepped sides to facilitate stacking. The top portion of a round drum may have one flat side to inhibit rolling when impacted. No portion of a drum regardless of shape or orientation shall be less than 18 inches in width.

The top portion of the drum shall be fabricated as a one-piece unit with a minimum wall thickness of 3/32 inch and with a closed top constructed so as to allow the bolting of standard barricade lights. The hole through which the lights are bolted shall pass through solid plastic several times thicker than the wall thickness of the top portion of the drum.

The outer part of the top portion shall have at least two white and two fluorescent orange alternating retroreflectorized, horizontal, circumferential stripes, 6 inches wide. The top stripe shall be fluorescent orange. If nonreflective spaces are left between the stripes, they shall be no more than 2 inches wide. All nonreflectorized portions of the top portion of the drum shall be orange.

The retroreflective prismatic sheeting used on drums shall meet or exceed the initial minimum coefficient of retroreflection as specified in the following table. Measurements shall be conducted according to ASTM E 810, without averaging. Sheeting used on cones, drums and flexible delineators shall be reboundable as tested according to ASTM D 4956.

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| --- | --- | --- | --- |
| Initial Minimum Coefficient of Retroreflection  candelas/foot candle/sq ft (candelas/lux/sq m) of material | | | |
| Observation | Entrance |  | Fluorescent |
| Angle (deg.) | Angle (deg.) | White | Orange |
| 0.2 | -4 | 365 | 150 |
| 0.2 | +30 | 175 | 70 |
| 0.5 | -4 | 245 | 95 |
| 0.5 | +30 | 100 | 40 |

INSPECTION. A sample of each drum with sheeting bid shall be shipped to the Engineer of Materials and Physical Research, 126 East Ash Street, Springfield, Illinois 62704, at the time the bid is submitted. Samples shall be free of charge and postage paid. A manufacturer’s certification covering all physical properties will be required and must accompany test samples. The bidder **must** identify the drums as his samples and include the name of the manufacturer.

Manufacturers or suppliers of drums shall provide a manufacturer’s self-certification letter for each type of device provided on the contract. The letters shall state the device meets the NCHRP 350 or MASH requirements for its respective category and test level, and shall include a detail drawing of the device.

This specification supersedes Specification T-31-23

## May 2023