



Culvert Inlet Protector Specifications

Description

The Culvert Inlet Protector (CIP) shall be a polyethylene product manufactured by a rotational molding process. The CIP will attach to the front of a standard pre-cast concrete or corrugated steel pipe flared end. The CIP shall be used during the construction phase of street or sewer projects, and can then be moved to another project or kept permanently in place to prevent debris from entering the culvert / sewer during future rain events. The CIP will be manufactured of a dual layer HDPE with multiple 3" diameter holes and 400 micron filter fabric between the layers. The CIP can be mounted on the flared end either with or without a trash guard.

Purpose

Set in place, this CIP is designed to reduce flow creating temporary ponding, which will enhance sedimentation upstream of the flared end.

Materials

The InfraSafe CIP shall be made of Linear Low Density Polyethylene (LL-8555/8556). LLDPE rotational-molding resins shall offer good stiffness and low temperature impact strength, excellent environmental stress crack resistance (ESCR) and warp resistance.

Characteristics *Fully Formulated, High Flow
 UV-4 Type*

Resin Properties

| | |
|-----------------------------------|--------------|
| <i>Melt Index (g/10 min)</i> | 6.8 |
| <i>Density (g/cm³)</i> | 0.935 |

Typical Physical Properties

| | |
|---|----------------------|
| <i>Tensile Strength</i> | |
| <i>@ Yield (2"/minute PSI)</i> | 2450 |
| <i>Ultimate Elongation (%)</i> | 415 |
| <i>ESCR - Condition B</i> | |
| <i>Hours F₅₀ (100% Igepal)</i> | >1000 |
| <i>Flexural Modulus</i> | |
| <i>@ 1% Secant (PSI)</i> | 84000 |
| <i>Heat Distortion</i> | |
| <i>@ 66 PSI (° C)</i> | 50 |
| <i>ARM Impact</i> | |
| <i>1/8" Specimen (-40° C)</i> | 52 |
| <i>Standard Colors</i> | Orange / Grey |

Codes and Standards

The InfraSafe Culvert Inlet Protector meets the following codes and standards:

- FDA Requirements 21CFR 177.1520
- ASTM D 1893 Measurement of Physical Properties
- ASTM D 792/1505 Density of Polyethylene Materials
- ASTM D 968 Abrasion Test
- ASTM D 1248 Polyethylene Plastics Molding and Extrusion Materials
- ASTM D 1308 Chemical Resistance
- ASTM D 2152 Acetone Immersion

Product Accessories – Filter Fabric (400 micron)

| Mechanical Properties | Test Method | Unit | Typical Roll Value | |
|-----------------------------|-------------|------------|--------------------|-----|
| | | | MD | CD |
| Grab Tensile Strength | ASTM D 4632 | lbs | 295 | 185 |
| Trapezoid Strength | ASTM D 4533 | lbs | 80 | 60 |
| Burst | ASTM D 3786 | lbs | 415 | |
| Puncture | ASTM D 4833 | lbs | 108 | |
| Water Flow | ASTM D 4491 | gpm | 100 | |
| Apparent Opening Size (AOS) | ASTM D 4751 | U.S. Sieve | 40 | |
| Shade | | % | 90 | |

| Physical Properties | Test Method | Unit | Typical Value |
|---------------------|-------------|------------|---------------|
| Weight | ASTM D 5261 | oz / sq yd | 4.5 |
| Thickness | ASTM D 5199 | mils | 11 |
| Fiber Content | | | 100% PP |

Typical Detail

