

Part

CC-2, CC-23, CC-3, CC-378

Scope

This specification covers the material, physical/aesthetic dimensions, and mechanical properties of the Crystal Cap marker as manufactured by ACP International. They shall be ideal for marking storm drains and buried cable, but shall also be easily applied to any flat, nonporous surface.

Technical Data Sheet

Crystal Cap™ Markers

Crystal Cap Markers

ACP International crystal cap markers shall be made from cuts of glossy vinyl and protected by a polyurethane dome. The lifespan of the dome, assuming average UV and climate exposure, shall be at least 10 years in an outdoor environment.

Crystal cap markers shall be printed on .030 glossy vinyl and the dome shall be a hardened form of a clear, polyurethane compound.

Crystal cap markers shall be tough, durable, and scuff resistant. They shall be ideal for marking storm drains and buried cable, but shall also be easily applied with vandal-resistant Sikaflex® Caulk or Butyl adhesive pads to any flat, nonporous surface.

Crystal cap markers shall be made into round, rectangular or oval shapes, in any color to fit a nearly universal range of applications.

Dimensions

Part No.	Description
CC2	2" Round
CC23	2" x 3" Oval
CC3	3" Round
CC378	3 7/8" Round

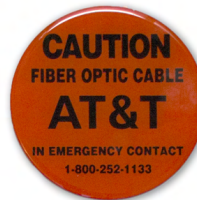
IMPORTANT NOTICE: ACP International and SA-SO (a division of ACP International) trusts that the user of the product has the most accurate knowledge of how the product might be most efficiently or safely utilized in any given application or environment.

ACP International and SA-SO also trust that the above technical data and product information is based on thorough and accurate testing of the product, but are not liable for any loss or damage to the product (or any other product, employee, or building from which the product might come into direct or indirect contact) resulting from an intentional or unintentional mishandling of the product.

Specification Sheet

Crystal Cap Markers

	Drawn By:	Approved By:	Date:	Sheet No.:
	J.Y. Rollins	M. Prince	12-15-15	1 of 2



Crystal Cap Marker



Crystal Cap Markers

Mechanical Properties

The ACP International crystal cap marker shall have a bottom surface of glossy vinyl with the following mechanical properties:

Property	Test Method (ASTM)	Typical Values
Thickness (mils)		5.0~10.0 (roll)
Thickness (mils)		10.0~30.0 (roll & sheet)
Thickness tolerance		± 7% (7.0± mil) ± 5% (7.1± mil)
Width tolerance		± 1/16" (roll), ± 1/32" (square cut)
Color	N/A	Various
Gloss Value (60°)	D523	135 ± 10 (highly tinted transparent) 100 ± 25 (deeply tinted transparent) 90 ± 15 (opaque)
Specific gravity	D792	1.34± 0.02 (transparent) 1.40 ± 0.04 (opaque)
Tensile Strength (psi)	D638	6000 min.
Elongation (%)	D638	100 min. (20 mil±), 70 min. (20.1±mil)
Heat distortion temp. (°F @ 264 psi)	D648	152 ± 5
Vicat softening temp. (°C)	D1525	89 ± 2
Dyne level	D2578	32 min.
Impact Strength		HXX VXX EXX
Cold-break temperature	D1790	-4 °F -22 °F -31 °F

The crystal cap marker shall also be protected by a clear polyurethane resin that fulfills the following testing criteria:

- weathering test of two years in South Florida and show no appreciable discoloration and no change or promotion of corrosion to the surface.
- 500 hours of exposure in a UV light and water spray apparatus and show no significant surface deterioration, increase in hardness, shrinkage, or noticeable color or gloss change.
- 7 days in a hot air circulating oven at 170°F and show no surface deterioration, shrinkage, or increase in hardness.
- 7 days in a humidity cabinet at 100°F 100% R.H. and show no color or gloss change or objectionable shrinkage.
- resist impact and abrasion in temperatures as low as -20°F and recover from forced.

Crystal Cap is a non-registered trademark of ACP International since 2003.

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Specification Sheet				
Crystal Cap Markers				
	Drawn By:	Approved By:	Date:	Sheet No.:
	J.Y. Rollins	M. Prince	12-15-15	2 of 2

ACP International/SA-SO/Jim's Work/Marketing Projects/technical drawings/crystal cap markers/crystal cap markers.ai

Technical Description, Design, and Material

ACP International crystal cap markers shall be made from glossy vinyl and protected by a polyurethane dome. The lifespan of the marker, assuming average UV and climate exposure, shall be at least 10 years in an outdoor environment.

Crystal cap markers shall be printed on .030 glossy vinyl and the dome shall be a hardened form of a clear, polyurethane compound. Crystal cap markers shall be tough, durable, and scuff resistant.

Dimensions

The ACP International crystal cap marker shall be produced in the following sizes, but shall in any size upon request.

Part No	Description
CC-2	2" Round
CC-23	2" x 3" Oval
CC-3	3" Round
CC-378	3 7/8"

Crystal Cap is a non-registered trademark of ACP International since 2003.

Mechanical Properties

The ACP International crystal cap/economy marker shall have a bottom surface of glossy vinyl with the following mechanical properties:

Property	Test Method (ASTM)	Typical Values		
Thickness (mils)		5.0~10.0 (roll)		
Thickness (mils)		10.0~30.0 (roll & sheet)		
Thickness tolerance		± 7% (7.0↓ mil)		
		± 5% (7.1↑ mil)		
Width tolerance		± 1/16" (roll), ± 1/32" (square cut)		
Color	N/A	Various		
Gloss Value (60°)	D523	135 ± 10 (highly tinted transparent)		
		100 ± 25 (deeply tinted transparent)		
		90 ± 15 (opaque)		
Specific gravity	D792	1.34± 0.02 (transparent)		
		1.40 ± 0.04 (opaque)		
Tensile Strength (psi)	D638	6000 min.		
Elongation (%)	D638	100 min. (20 mil↓), 70 min. (20.1 mil↑)		
Heat distortion temp. (°F @ 264 psi)	D648	152 ± 5		
Vicat softening temp (°C).	D1525	89 ± 2		
Dyne level	D2578	32 min.		
Impact Strength		HXX	VXX	EXX
Cold-break temperature	D1790	-4 °F	-22 °F	-31 °F

The crystal cap marker shall also be protected by a clear polyurethane resin that fulfills the following testing criteria:

- weathering test of two years in South Florida and show no appreciable discoloration and no change or promotion of corrosion to the surface.
- 500 hours of exposure in a UV light and water spray apparatus and show no significant surface deterioration, increase in hardness, shrinkage, or noticeable color or gloss change
- 7 days in a hot air circulating oven at 170°F and show no surface deterioration, shrinkage, or increase in hardness
- 7 days in a humidity cabinet at 100°F 100% R.H. and show no color or gloss change or objectionable shrinkage
- resist impact and abrasion in temperatures as low as -20°F and recover from forced indentations

Special Properties

Build America, Buy America (BABA) Compliance and the American Iron and Steel (AIS) requirements:

The general categories of Utility Infrastructure Marking Products by ACP International, Inc., dba or branded as ACP International, SA-SO, Capital StreetScapes, Concrete Graphics, and Stonehouse Signs, is compliance with BABA. Regarding steel content, this product is made primarily of components other than steel. The total steel content falls under the De Minimus waiver of the AIS requirements.

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Approved By:
ACP Marketing

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4/22/2025

Date Reviewed:
5/29/2026