

# KrystalKote™ “CTF” DATA SHEET

**KrystalKote™ CalTrans Formula (CTF) Gloss, clear** is a two-component, high-solids, low VOC, cross-linked, aliphatic polyurethane coating possessing outstanding resistance to harsh environmental conditions; graffiti; mold; mildew & microbe growth; caustic chemicals; abrasion; impact; and flexing. **KrystalKote™ CTF** is resistant to the effects of U-V and I-R: clear will not yellow, clear-coated underlying colors and custom-tinted **KrystalKote™** will not noticeably fade for 10-years<sup>1</sup>. **KrystalKote™ CTF** has proven flexibility and tolerance to expansion & contraction, providing a crack-resistant surface, desirable in harsh environments such as salt-air coastal, high heat desert, frigid mountainous, and high humidity of the Northwest & the Southeast. **KrystalKote™ CTF** is completely resistant to hydraulic, lubricating and cutting oils, alcohols, food stains, normal acids & alkalies, salts, solvents, fuels, paints, inks, asphalt, wet concrete, algae, mildew, fungal molds, pesticides, fertilizers, creosote, etc., and temperatures to 450°F. **KrystalKote™ CTF** is CalTrans-Approved and *specified* as a *Graffiti-Resistant* clearcoat for traffic signs & soundwalls, and is impervious to graffiti solvents & pigments, cleaning efficiently with approved graffiti removers, such as **GT-1000™** or **GT-2000™**.

## CalTrans Approvals & Specifications:

### Office of Safety and Health

Dec 1994: Report #94-1014-D07-56-VAP-GRC: CalTrans-sponsored *Occupational Exposure Investigation: KrystalKote™ Application*, by an independent Certified Industrial Hygienist, Michael Conner, of ACUMEN Industrial Hygiene, Inc.

### Office of Safety and Health

January 17, 1995: CalTrans *Letter of Approval For Use: New Product #NPE 94-04-006 (KrystalKote™)*.

### Office of Materials Engineering & Testing Svcs.

January 19, 1999: *CalTrans Laboratory Approval Report: KrystalKote™ Gloss, clear (CTF) exceeds* all standard testing, i.e. 3000 hrs in Weatherometer. Andy Rogerson, Sr. Chemical Test Engineer.

### Office of Materials and Foundation

February 10, 1999: CalTrans *Letter of Certification: KrystalKote™* meeting all requirements for graffiti coating. Lee Taubeneck, Sr. Transprtn Engineer.

### DGS/Procurement Division

January 27, 2000: CalTrans Invitation For Bid - Solicitation #47787: Aluminum Single Sheet and Laminated Panel, Ground-Mounted Signs; and Aluminum Single Sheet Formed Signs; and Laminated Panel Signs for Overhead Structures. *TradeWinds' KrystalKote™ specified as only "Spray-On Coating"*. George Hortin, Buyer.

### Walt Disney Imagineering

**KrystalKote™** specified as graffiti-resistant coating for dedicated signs, soundwalls, parking structures, “flyovers”, bridges, etc., for new CalTrans District 12 I-5 construction, and all other Disney locations.

## Typical Approvals & Specifications:

### City of Los Angeles

Dec 16, 1994, Operation Clean Sweep, Dept. of Public Works, recommendation to Bureau of Street Maintenance, specifying **KrystalKote™** as a tested and approved graffiti-resistant, Bus Chrome yellow, or clearcoat, for new heavy equipment purchases.

### City of Los Angeles

September 15, 1995 Department of Public Works, Specifications for Rotary Street Sweepers, specifying **KrystalKote™** as approved coating.

### City of Las Vegas

April 27, 1998 Street Department Sign Shop letter attesting to superior performance and cost efficiency of **KrystalKote™** protected traffic signs.

### Daniel, Mann, Johnson, Mendenhall (DMJM)

**KrystalKote™** specified as graffiti-resistant architectural coating.

### HDR Engineering

**KrystalKote™** specified as marine environment corrosion- and graffiti-resistant coating for steel train bridge on *Coaster* route.

### County of Orange

**KrystalKote™** specified as graffiti-resistant clearcoat for murals and other artworks.

### City of Gardena

**KrystalKote™** specified as graffiti-resistant coating for monuments and other structures.

### City of Inglewood

**KrystalKote™** specified as graffiti-resistant coating for murals, monuments and other structures.

## Physical Properties

V.O.C. tinted:	192 grams/liter (1.6 lbs/gal)
clear:	228 grams/liter (1.9 lbs/gal)
SCAQMD Rating:	Extreme Performance Coating per Rule 1107 para (12); Indust. Maint. Graffiti Coating per Rule 1113 para (17).
Coverage - theoretical:	1280 ft <sup>2</sup> /gal at 1-mil DFT.
actual on metal:	@ 212 ft <sup>2</sup> /gal at 4-mil DFT.
actual on porous:	@ 125 ft <sup>2</sup> /gal at 4-mil DFT.
Solid Content (by wt):	80% (clear) -85% (tinted)
Consistency:	Brushable/Sprayable
"Pot" Life	approx. 2-hr at 75°F
"Re-coat" Time	approx. 45-min at 75°F
"Tack Free" Time:	approx. 2-hr at 75°F
"Stack" Time	approx. 8-hr at 75°
"Full Cure" Time	approx. 72-hr at 75°
Adhesion:	Excellent on: metals, wood, concrete, masonry, rubber, vinyl flooring, tile, etc.
Tensile strength:	6,000 P.S.I.
Elongation:	100%
M.E.K. 100-rub test:	Pass
Impact resistance:	Excellent: 1-lb. ball/5-ft drop: No chipping or cracking.
Flexibility:	Excellent: 180° bend over 1/8" mandrel: No chip/cracking.
Taber abrasion:	Outstanding: Taber Abrader with CS-17 wheel and 1 kg pressure. Film loss: 1-mil per 13,000 revolutions.
Salt-spray:	No film deterioration/lifting after 1,500 hours at 90°F and 20% salt solution.
Weather resistance:	Excellent.
"10-Year Warranty:	See Limited Warranty

Available from:

### **TradeWinds International, Inc.**

1374½ Colorado Street  
Glendale CA 91205-1475  
Toll Free: 888-463-3003  
Local: 818-500-1921  
Fax: 818-500-3973  
E-mail: tradewinds@usa.com

## INDEPENDENT VERIFICATION

An "Application Report" by Angus Chemical Company (Biocides Division) is available to verify and certify the efficiency of the biocide used in \***KrystalKote™ CTF** to inhibit spores, fungus, molds, and similar microbes. The following table is derived from this standardized study:

### **Riedel-deHaen Dry Film Mildewcide Test**

Sample	Rating	Status
* <b>KrystalKote™</b>	1	Pass
Generic Polyurethane Coating #1	5	Fail
Generic Polyurethane Coating #2	4	Fail
Petri-Agar Control	6	Control

### Conclusion:

"The present level of *AMICAL Flowable* is sufficient to protect \***KrystalKote™** from fungal attack, resulting in NO microbial growth".

### Ratings:

- 1 = Coating NOT molded, zone of fungal inhibition around test sample greater than 3-mm.
- 2 = Coating NOT molded, zone of fungal inhibition around test sample less than 3-mm.
- 3 = Coating NOT molded, no zone of fungal inhibition around sample.
- 4 = Coating slightly grown over: less than 10%.
- 5 = Coating clearly grown over: less than 30%.
- 6 = Coating heavily grown over: more than 30%.

\*For this trial by Angus Chemical Company, sample was submitted under original name of Ceramkote

While we believe that the data contained herein is factual, and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data is not to be taken as a guarantee of performance, nor a warranty of representation, either expressed or implied, for which we assume legal responsibility. This information relates to the specific material designated, and may not be valid for such material used in combination with any other materials, or in any process. Such information, to the best of our knowledge and belief, is accurate and reliable as of the date compiled. It is offered solely for client consideration and verification. Any use of this data and information, must be determined by the user, to be in accordance with applicable Federal, State and local laws & regulations. Neither TradeWinds International, Inc., nor its distributors or agents, will be liable under any circumstances or conditions, either expressed or implied, for damages in excess of the purchase price of this product.