

# CRO - Chip Retention Oil



Successful performance of asphalt emulsions requires selecting the proper type and grade for the intended use. Guidelines should be considered when selecting the specific grade and type of emulsion to be used. Some of the factors that affect the selection of the proper type of emulsion to be used are:

- \* Climatic conditions anticipated during the work
- \* Geographical location: hauling distance, water availability, etc.
- \* Environmental considerations
- \* Aggregate type and availability
- \* Construction equipment availability
- \* Traffic control considerations
- \* Type of work: slurry, cold-in-place, re-mix, prime, fog seal, tack, etc.

While guidelines can be given for selecting the proper type of emulsion to be used, laboratory testing is strongly recommended. There is no good substitute for laboratory evaluation of the emulsion and the aggregate to be used. Contact Reed & Graham for further assistance with emulsion questions.



**Chip Retention Oil (CRO)** is a specially formulated asphalt emulsion designed for reducing the effects of aggregate loss on newly applied or existing chip seal projects. An application of **CRO** as a fog seal contributes to:

- \* Creating an aesthetically pleasing black surface
- \* Magnifying the visibility of surface striping
- \* Cutting down brooming time
- \* Extending the life of the surface treatment by filling voids
- \* Sealing pavement against water intrusion and aggregate loss
- \* Reducing windshield liability issues
- \* Diminishing raveling of chip seal
- \* Preventing tracking
- \* Potentially eliminating fugitive dust and opacity rulings (PM 10) on job sites

# Chip Retention Oil Specifications

## Tests on CRO Emulsion:

			Test Method
Viscosity, ZAHN CUP (No 2)	Min 10	Max 20	
Settlement, 5-day, %	Max 5		T59
Storage Stability Test, 24-H, %		1	T59
Sieve Test, %		10	T59
Particle Charge	Negative		
Residue	Min 35		T59

## Test on Residue from Evaporation Test:

Softening Point, F	Min 180		T53
Ductility, 77F, 5CM/Min CM	Min 75		T51
Pen @ 77F	Min 40	Max 90	T49
Flash Point (C.O.C. F Min)	Min 425		T48
Solubility in Trichloroethylene	Min 97.5		T44

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## Chip Retention Oil Applications

Chip Retention Oil is designed to aid in the prevention of chip loss and to assist with eliminating fugitive dust, commonly associated with the application of chip seals. The suggested method of application is as follows:

1. Prepare surface for preventive maintenance surface treatment - chip seal.
2. Apply chip seal to existing surface, per industry / job specifications.
2. Sweep excess chips from newly chipped surface, after chip emulsion cures.
3. Apply Chip Retention Oil to freshly swept chip seal, at a rate of .10 to .17 gal / sq. yd.
4. Allow Chip Retention Oil to cure, under normal climatic conditions, 1 hour.
5. Roll, if required.
6. Remove traffic control.
7. Open completed chip sealed surface with Chip Retention Oil surface to traffic.