

# BASIC STEPS TO NON-DESTRUCTIVE TESTING

## Visible Red Dye Penetrant Method

### **Step A: Pre-clean-Surface and Suspected Voids with CLEANER (CNF or CF)**

Holding can eight to ten inches from surface, spray CLEANER liberally onto surface (average time is approximately ten minutes).

NOTE: Improper cleaning of test surface can result in poor test results.

### **Step B: Apply PENETRANT .**

Holding can eight to twelve inches from the surface, spray surface thoroughly. Allow sufficient time for penetration of surface discontinuities (average time is approximately ten minutes) but do not let PENETRANT dry. Re-spray PENETRANT if necessary.

NOTE: Ideal temperature range for PENETRANT application is 60°F to 100°F.

### **Step C: Remove excess PENETRANT.**

After the PENETRANT has been allowed to enter the surface discontinuities, any excess surface PENETRANT should be removed. Apply CLEANER to a clean cloth and wipe the surface. Do not spray CLEANER directly onto surface. Allow surface to dry before moving to Step D.

### **Step D: Apply DEVELOPER (DNF or DF).**

**Shake DEVELOPER well before using.** Spray DEVELOPER onto surface to draw out PENETRANT retained in voids and absorb retained PENETRANT into visible flaw indications. Apply a moist application to ensure absorbents are covered but do not over saturate.

NOTE: An overly saturated condition could result in some PENETRANT dilution which can result in weakened test indications.

Red marks on the white DEVELOPER coating will indicate any present voids. Some may appear immediately but other voids may take up to ten minutes to develop. The nature of the discontinuities that have been marked can be assessed based on the characteristics of the red marks such as the speed in which they develop and final size and shape.

### **Step E: Remove DEVELOPER**

Dry DEVELOPER powder may be removed from the surface by brushing, air pressure or water pressure if necessary.

### **Step F: Clean the Surface**

The PENETRANT often adheres to the surface; therefore, it is necessary to perform a final cleaning. To remove any residual product, wipe or flush surface with CLEANER.