

## Best Practices for Cleaning MIL DTL 38999 (1.6mm) Connectors



# Connector Cleaning and Sources of Contamination

## REASON FOR CLEANING CONNECTORS:

- Mating dirty connectors will cause scratching and pitting ruining termini end faces
- Cleaning both end of mated connector pair before mating will extend service life of assemblies and ensure reliability of signals

## COMMON SOURCES OF CONTAMINATION:

- Wear debris generated from moving parts when mating connectors
- Electrostatic charge caused by contact friction from dry cleaning processes
- Cross contaminated alcohol that has been diluted from atmospheric moisture, lint from paper based wipes, and broken cellular structure of foam tipped sticks

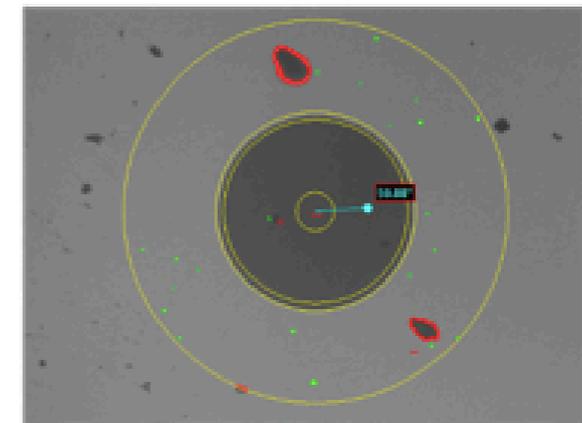
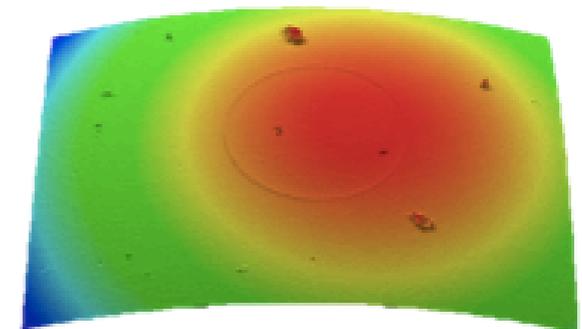


Image of dust contaminated end face courtesy of Promet Optics



# Case for Using Sticks and Cleaning Fluid

## 1. CLEANING PERFORMANCE:

- The use of cleaning fluid breaks up heavy oils and residue contamination
- The strands in the cleaning tip create a capillary action which wicks up contamination from the end face



## 2. ELMINATION OF ELECTROSTATIC CHARGE EFFECT:

- The cleaning fluid becomes the dissipative medium that eliminates the electrostatic charge on the ferrule and connector housing
- Cleaning with a moisten cleaning stick does not create an electrostatic charge during the wiping process
- The cleaning stick's tip makes contact with the socket wall of MIL PRF 29504/5 termini during the rotation process which dissipates the electrostatic charge
- Using the cleaning fluid will ensure compliance to IPC 8497-1 Sect 10



# Case for Using Sticks and Cleaning Fluid

## 3. LARGEST EFFECTIVE CLEANING REGION:

- The cleaning stick's tip diameter is able to reach contamination that resides in the outer regions of the ferrule end face
- Removing contamination from end face periphery significantly reduces particle migration

## LIMITATIONS OF MECHANICAL CLEANERS:

- Dry wiping with mechanical cleaner causes an electrostatic charge from the contract friction between the cleaner's cleaning strand flowing across the ferrule end face
- Wet-dry cleaning with mechanical cleaner is ineffective because the cleaning strand wicks up on both sides of the cleaning strand requiring multiple engages
- The cleaning tip outer diameter is reduced to prevent contact with socket walls that would interfere with the cleaning strand flow
- The effective region for current cleaners is limited to  $< \text{Ø}0.6\text{mm}$  for  $\text{Ø}1.6\text{mm}$  terminus





# Recommended Sticklers Products



**MCC P/N: S16**  
**NSN 6070-01-553-2262**

22mm length cleaning tip reaches 29504/5 socket termini and 29504/4 pin termini with an inspection adapter



**MCC P/N: P25**  
**NSN 6070-01-553-2258**

Recessed cleaning tip in handle enable cleaning of the periphery of 29504/4 pin termini



**MCC P/N: POC03M**  
**NSN 6850-01-592-9391**

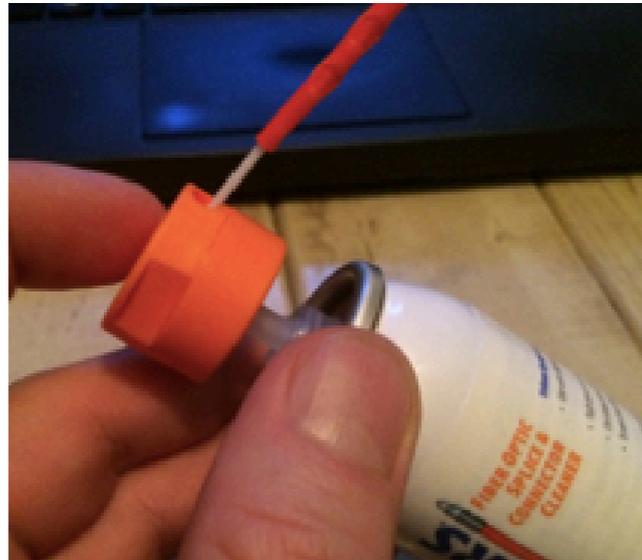
Non flammable, non aerosol precision cleaning fluid in hermitically sealed 3oz air ship safe steel can





# Recommended Cleaning Process

MIL PRF 29504/5 Termini - MIL DTL 38999



## APPLICABLE PRODUCTS:

- MCC P/N POC03M  
*Fiber Optic Splice & Connector Cleaner* cleaning fluid
- MCC P/N S16  
*1.6mm CLEANSTIXX* cleaning sticks



## FOR BEST RESULTS:

- Moisten stick taking care not to over saturate
- Angle cleaning fluid can and gently engage pump
- Rotate stick in same direction 6X to 8X in same direction
- Use stick once to avoid accidental cross contamination
- To minimize FOD risk, work with single sleeve with 10 sticks





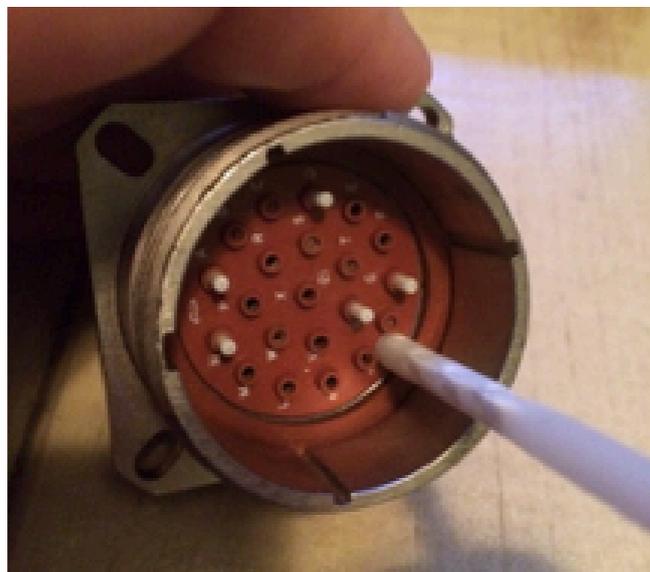
# Recommended Cleaning Process

MIL PRF 29504/4 Termini - MIL DTL 38999



## APPLICABLE PRODUCTS:

- MCC P/N POC03M  
*Fiber Optic Splice & Connector Cleaner* cleaning fluid
- MCC P/N P25  
*Pin CLEANSTIXX* cleaning sticks



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For more information visit  
[SticklersCleaners.com](http://SticklersCleaners.com)

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