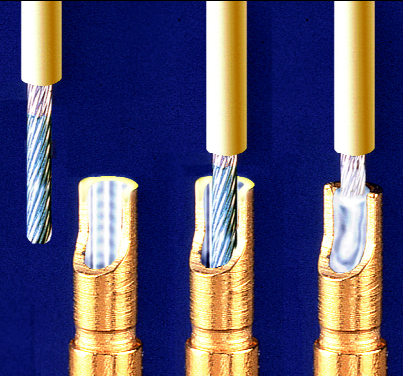


**THROUGH-HOLE SOLDERING
SOLDER CUPS**

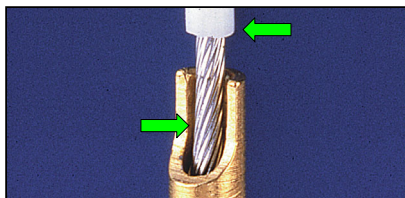


SOLDER CUPS

Solder cup terminals are primarily designed for the in-line solder termination of conductors. This style of terminal is principally designed as a precision-machined pin for insertion into connector bodies.

Variations include connectors in which the solder cup pin is captive in the connector body (i.e.: hermetic connectors), or printed wiring board mounted terminals designed for discrete wire terminations.

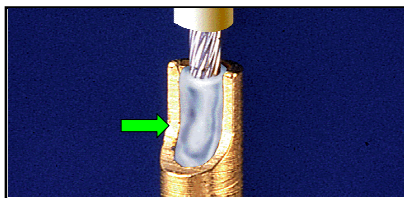
See Section 6.01 "Through-Hole Soldering, General Requirements", for common accept / reject criteria.



**PREFERRED
INTERIM ASSEMBLY**

The wire has been inserted straight into the cup, is in contact the back wall for the full depth of the cup, and bottoms in the cup. The assembly exhibits proper insulation gap and the cup interior has been pretinned.

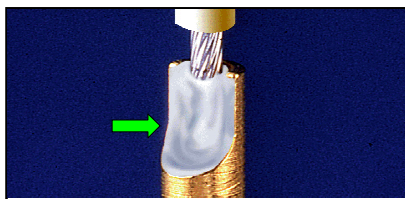
[NASA-STD-8739.3 \[9.6 \]](#)



**PREFERRED
COMPLETED ASSEMBLY**

The solder shall form a fillet between the conductor and the cup entry slot, and shall follow the contour of the cup opening.

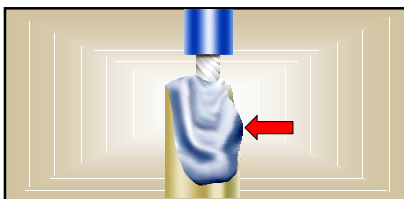
[NASA-STD-8739.3 \[10.2.3 \]](#)



**ACCEPTABLE
MAXIMUM SOLDER**

The solder quantity is the maximum acceptable, but does not spill over (exceed the diameter of the cup), or exhibit a convex profile.


[NASA-STD-8739.3 \[10.2.3.b \]](#)



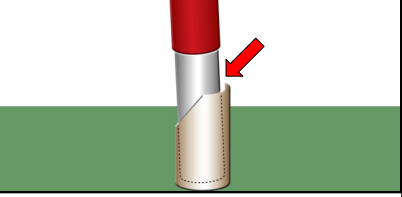
**UNACCEPTABLE
EXCESS SOLDER**

The solder does not follow the contour of the cup opening and spills over (exceeds the diameter of the cup) with a convex profile.

[NASA-STD-8739.3 \[10.2.3.a \]](#), [\[13.6.2.b.6 \]](#)

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**THROUGH-HOLE SOLDERING
SOLDER CUPS (cont.)**



**UNACCEPTABLE
IMPROPER INSTALLATION**

The wire has been inserted for the full depth, but is not in contact with the back wall of the cup.

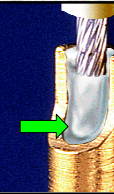
[NASA-STD-8739.3 \[9.6 \]](#), [\[13.6.2.a.5 \]](#)

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THROUGH-HOLE SOLDERING
SOLDER CUPS (cont.)

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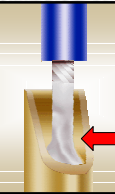
THROUGH-HOLE SOLDERING
SOLDER CUPS (cont.)



**ACCEPTABLE
MINIMUM SOLDER**

The solder quantity is sufficient to follow the contour of the cup opening. The termination is fully wetted with complete, slightly concave, fillets between the wire and the cup wall. Solder fill is at least 75%.

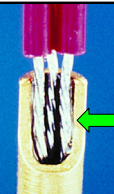
[NASA-STD-8739.3 \[10.2.3.a \]](#)



**UNACCEPTABLE
INSUFFICIENT SOLDER QUANTITY**

The solder quantity is insufficient to follow the contour of the cup opening. The termination is fully wetted, but exhibits incomplete fillets along the conductor. Solder surface is not visible in bottom of cup.

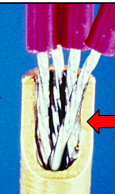
[NASA-STD-8739.3 \[10.2.3.a \]](#), [13.6.2.b.7]



**ACCEPTABLE
MULTIPLE TERMINATIONS**

The maximum number of conductors that can be inserted into the cup is limited to those that can be in contact with the full height of the back wall of the cup. All wires shall exhibit proper insulation gaps, but do not need to exhibit equal gaps.

[NASA-STD-8739.3 \[9.6 \]](#)



**UNACCEPTABLE
EXCESSIVE CONDUCTORS**

The number of conductors inserted exceeds the number that can be in contact with the full height of the back wall of the cup.

[NASA-STD-8739.3 \[9.6 \]](#)



**ACCEPTABLE
SPILLAGE**

Solder along the outside of the cup (spillage) is acceptable, provided the solder deposit approximates tinning and does not interfere with the form, fit, or function of the connector.

[NASA-STD-8739.3 \[10.2.3.b \]](#)



**UNACCEPTABLE
SPILLAGE**

The solder deposit interferes with the form, fit, or function of the connector.

[NASA-STD-8739.3 \[10.2.3.b \]](#), [13.6.2.b.6]

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