HVAC Super Pro

Product Overview

HVAC Super Pro® is a one-part, flameless bonding polymer for joining copper, aluminum, titanium, and brass in any combination. It fully replaces brazing, providing strong, long-term bonds without a torch, nitrogen purge, or flame. It works with all refrigerants and oils, and bonds dissimilar metals, such as aluminum and copper, without causing galvanic corrosion.

When to Use It

HVAC Super Pro® can be used any time brazing would normally be done. It is ideal for new installations, field repairs, and is particularly popular where open flame work is restricted or where heat may damage nearby components.

Product Facts

HVAC Super Pro® eliminates the risk of fires, burns, or component damage caused by heat during brazing or soldering. It is fully compatible with all refrigerants and oils. Each 50g bottle makes approximately 200 bonds on ½-inch tubing (the same number of bonds as 1 1/2 pounds of braze). The product operates in a temperature range from -65˚F to 350˚F and has been tested to last 50 years.

Bond strength has been tested to ASTM 4541 standards, with pull-apart strength of 1500 foot-pounds and rotational strength of 450 foot-pounds. When bonding dissimilar metals (like copper and aluminum) the use of HVAC Super Pro eliminates the risk of galvanic corrosion because the two metals are separated by a high strength layer of polymer bond.

Field Application Steps

Fit and Clearance

The tubing must insert fully into the fitting with a slip fit — not too tight and not too loose. Actual clearance should be between .005” and .020”. If the fit is too tight, lightly swage the tubing to allow full insertion and proper adhesive spread. Avoid forced or press fits. If the fit is too loose, joint strength may be reduced.

A simple check: wrap a sheet of paper once around the tubing and insert it into the fitting. If the paper slides in without tearing or wrinkling, the fit is correct.

Surface Preparation

Sand both the tubing and fitting surfaces using the provided 60-grit emery cloth until shiny metal is exposed. Do not wipe off the sanding dust as it is necessary for bonding.

Product Preparation

Shake the bottle thoroughly before use. Cut a small hole in the tip of the HVAC SUPER PRO bottle. Dispense and discard the first drop to clear the nozzle.

Polymer Application

Apply a 1/8-inch bead around both sides of the connection. Spread the polymer evenly around the entire bonding area using a non-absorbent tool or gloved finger. You want to capture all of the sanding dust in the film. This promotes bonding and prevents contamination to the system. Do not use a cotton swab or any absorbent materials, as they can remove material from the bonding surface and weaken the joint. If you cannot reach inside the tubing, use a tooth pick or similar. Be sure to leave a heavy coat of HVAC SUPER PRO.

Assembly and Cure

Fully insert the tubing into the fitting and hold the joint in place for about 30 seconds. Once assembled, allow the joint to sit undisturbed for at least 3 minutes for copper or brass, and 5 minutes for aluminum. The joint is ready for vacuum or pressure testing after 20 minutes. When you pull a vacuum on the system after the HVAC Super Pro has set up, any excess polymer on the inside of the joint cures. HVAC Super Pro only cures in the absence of oxygen. Full bond strength (up to 1,200 psi) is reached after approximately two hours.

Additional

If disassembly is required, heat the joint to approximately 450°F. Once separated, clean the surfaces and reapply following the same process. It is recommended that users wear nitrile or butyl gloves and safety glasses when using HVAC Super Pro®. Use in well-ventilated areas. Avoid contact with skin and eyes. Not for use on medical oxygen lines. HVAC Super Pro should not be used with any ferrous metals (carbon steel and stainless steel).

Ordering Information

10g Bottle with sanding cloth
Part #93787

50g Bottle with sanding cloth
Part #93786

MARS Tech Proficiency Exam

HVAC Super Pro

Name ______________________ Company ______________________

Address ______________________

MARS Sales Rep ______________________

When completed, please fax to: ***631-348-7160***

Choose the best answer.

1. HVAC Super Pro® is primarily used as a replacement for:

a) Pipe insulation
b) Brazing
c) Thread sealant
d) Flux paste

2. Which types of metals can HVAC Super Pro® bond?

a) Copper only
b) Aluminum only
c) Copper, aluminum, and brass
d) Stainless steel only

3. What is the recommended method to check proper fit before bonding?

a) Insert tubing by force
b) Use a micrometer to measure clearance
c) Use a sheet of paper wrapped around the tubing
d) Eyeball the gap

4. Before applying adhesive, what should be done to the tubing and fitting surfaces?

a) Clean with alcohol wipes
b) Buff with steel wool
c) Sand with 60-grit emery cloth
d) Leave surfaces as-is

5. What should you do with the sanding dust after preparing the surfaces?

a) Wipe it off with a rag
b) Blow it out with compressed air
c) Leave it in place
d) Rinse with water

6. What is the correct method to apply HVAC Super Pro® adhesive?

a) Apply a thin coat with cotton swab
b) Apply 1/8-inch bead and spread with a non-absorbent tool or finger
c) Pour directly into the joint
d) Apply multiple thin layers

7. How long should the joint be held steady after assembly?

a) 3 seconds
b) 10 seconds
c) 30 seconds
d) 1 minute

8. When is it safe to pressure test a joint after assembly?

a) Immediately
b) After 5 minutes
c) After 20 minutes
d) After 2 hours

9. What is the recommended procedure if disassembly is required?

a) Twist the joint apart
b) Apply cutting oil
c) Heat the joint to 450°F and separate
d) Apply force until it separates

10. Which of the following safety precautions is recommended when using HVAC Super Pro®?

a) Wear nitrile or butyl gloves and safety glasses
b) Use cotton swabs to apply adhesive
c) Work in enclosed areas without ventilation
d) Use on medical oxygen lines