SOLDERVEST QUICK

INVESTMENT FOR QUICK SOLDERING

SOLDER STAND

METAL STAND FOR SOLDERING

Prior to use, carefully read the instructions for use.

SOLDERVEST QUICK and SOLDER STAND have been developed for quick and highly precise soldering of metal structures for porcelain bridges, composite resin bridges and implants. With the combined use of the special metal SOLDER STAND, SOLDERVEST QUICK is compatible with all types of dental alloys of different thermal expansion rates. This allows for quick and highly precise soldering.

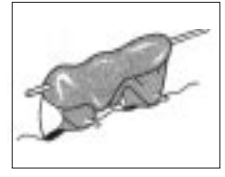
GC

FEATURES

1. With the combined use of the special metal SOLDER STAND, the expansion- adjustable SOLDERVEST QUICK is compatible with all types of dental alloys of different thermal expansion rates.
Therefore, excellent adaptability can be obtained even when soldering long span bridges.
2. SOLDERVEST QUICK can be heated quickly after setting.SOLDER STAND is made of a special metal with optimal thermal efficiency. This allows for efficient soldering.
3. The post can be erected freely along the groove of SOLDER STAND. Fine adjustment of the position of the post is easily accomplished. The post can be positioned into the inclination of the tooth axis.
4. Because of their high thermal resistance, SOLDERVEST QUICK and SOLDER STAND can be used for all types of solderings as well as soldering before and after porcelain firing.
5. Posts have a lock mechanism, by which they are retained mechanically on SOLDER STAND. This lock mechanism prevents posts from floating or becoming detached from SOLDER STAND.
6. Because the posts have a retention groove on the top, the object to be soldered can be fixed securely to the posts.
7. SOLDER STAND can also be used as a stand for firing porcelain.

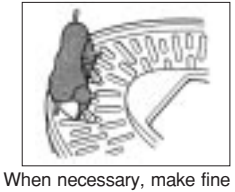
DIRECTIONS FOR USE

1. Temporary fixation of bridgework



Temporarily fix the bridgework to be soldered to posts using sticky wax and a metal wire. GC Pattern Resin may be used to temporarily fix the bridgework securely and firmly as required by its size and shape (e.g.a long-span bridge). For post-soldering, cover the porcelain surface with a layer of paraffin wax to prevent contact with SOLDERVEST QUICK.

2. Erection of posts



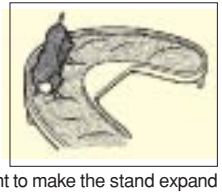
Select posts of an appropriate length and erect them in the grooves of SOLDER STAND. Rotate the posts half a turn and lock them in position. Try mounting the bridgework to be soldered on the posts. When necessary, make fine adjustment of the position of the posts by moving the posts along the grooves of SOLDER STAND. Carefully select the post length so that the margin of the bridgework to be soldered does not come into contact with the SOLDER STAND.

In case of a solder-piece with small, inclined abutment teeth, the posts can be positioned on the base-plate in the same inclination angle as the abutment teeth of the soldering piece.

3. Mixing SOLDERVEST QUICK

Place an appropriate amount of water in a rubber bowl, and add one pack of SOLDERVEST QUICK. Mix for 30 - 60 seconds. Use the following powder / water ratio.
-Porcelain-bonded metal : 100g powder to 23 - 25㎖ water
(One pack of 40g powder to 9.2 - 10.0 ㎖ water)
-Casting alloy : 100g powder to 20 - 22 ㎖ water
(One pack of 40g powder to 8.0 - 8.8 ㎖ water)

4. Fixing posts



Pour the SOLDERVEST QUICK mixture into the entire upper surface of the SOLDER STAND with the bridge temporarily fixed to the posts. Fill even the part of SOLDER STAND with no posts erected with investment to make the stand expand evenly. Lightly tap the SOLDER STAND against the worktable to vibrate it so that the SOLDERVEST QUICK mixture drains through the back surface.
Make sure that all the posts are properly positioned in the center of the internal surface of all the crowns, and remove the temporarily fixed bridgework from the posts.

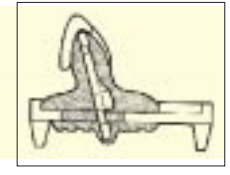
5. Fixing crowns

Fill the inside of the crowns of the bridge with the SOLDERVEST QUICK mixture. Gently reposition the bridge on the posts erected on the SOLDER STAND. Cover the entire surface of all the posts with SOLDERVEST QUICK so that the posts are not exposed. For presoldering, cover the margin of the bridgework with a layer of the mixture to prevent deformation of the margin.

6. Preparing a “shelf” at the soldering area

When necessary, in postsoldering, make a ledge for placement of soldering metal using the remaining SOLDERVEST QUICK mixture.
When the above work is completed, leave the bridgework for about 15 minutes until the investment hardens.

7. Flushing out wax

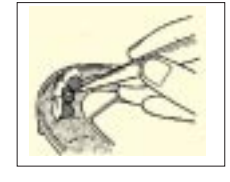


Fifteen minutes after investment, pour boiling water over the bridgework, and remove the temporary fixing wax and metal wire.

8. Applying flux

Remove moisture from the soldering area. Apply flux while the area is still warm from flushing out the wax.
The rest of the laboratory work is described separately for postsoldering(=soldering after porcelain firing) and for presoldering(=soldering before porcelain firing).

A. POSTSOLDERING
9. Preparing for soldering



Place a round hardened solder coated with flux on the area to be soldered or the ledge made of investment.

10. Drying, Soldering and Cooling

Before soldering, set the firing schedule of the porcelain furnace by referring to the following standard schedule. Set the degree of vacuum to 0 (atmospheric pressure).

Drying time	10min.
Starting temperature	515**°C**(959˚F)
Highest temperature	800**°C**(1,472˚F)
Rate of temperature increase	48**°C**(118˚F)/**min**
Holding time at the highest temperature	1 min.
Cooling time	2 min.

The firing schedule, such as the temperature setting and holding time at the highest temperature, may vary slightly depending on the types of porcelain and solder, size of the bridgework, and type of furnace. Adjust the firing schedule to the optimal conditions for your soldering metal.

11. Removing investment and Polishing

Make sure that the bridgework and SOLDER STAND are cooled completely. Immerse SOLDER STAND with the bridgework in water, and remove the SOLDERVEST QUICK. Correct the shape of the soldered area and polish in the usual manner to complete the bridge.

B. PRESOLDERING

9. Preheating

Place the SOLDER STAND with the bridgework in the porcelain or ring furnace preheated to 750°C(1,382˚F) and hold for 5 minutes.

10. Soldering and Cooling

Remove the SOLDER STAND from the furnace. Using a blowtorch, apply a flame on and around the area to be soldered and pour the melted solder. Confirm that the area has been completely soldered, and bench cool it.

11. Removing investment and Polishing

Make sure that the bridgework and SOLDER STAND are cooled completely. Immerse the SOLDER STAND with the bridgework in water, and remove the SOLDERVEST QUICK. Correct the shape of the soldered area and polish in the usual manner to complete the bridge.

PHYSICAL PROPERTIES OF SOLDERVEST QUICK

Items		Standard Values	
Powder / water ratio		0.25	0.20
Setting time	(min,sec.)	4'30"	3'15"
Setting expansion	(%)	0.13	0.28
Thermal expansion	(%)	0.63	0.68
Compressive strength (MPa after 2 hrs)		3.0	4.1

NOTES

1. Do not touch SOLDER STAND while it is still hot from the furnace.
2. The hot SOLDER STAND should be placed on a highly insulated rest using pliers, etc.
3. When using SOLDERVEST QUICK, use a local dust collector or dust mask to avoid inhaling powder dust.
4. Avoid contact of SOLDERVEST QUICK with eyes. In case of contact, immediately flush with water and seek medical attention.
5. When cutting and trimming hardened material, wear goggles for eye protection.
6. When heating the material, work in a well-ventilated room to avoid inhaling gas.
7. Do not mix with other products.
8. This product is to be used only by a dental professional.
9. This product should be used only for the applications described in the instructions.

Other Notes

1. Do not concentrate a blowtorch flame on SOLDER STAND locally.
2. Use SOLDERVEST QUICK and SOLDER STAND together.
3. When SOLDERVEST QUICK is poured into SOLDER STAND to fix posts, pour the investment not only into the part where posts are erected but also into the entire SOLDER STAND to make SOLDER STAND expand evenly.
4. If SOLDER STAND is heated over 1,200°C (2,192°C), it may melt.
5. Do not quench after postsoldering is completed. Cool slowly for the time stipulated in the firing schedule for porcelain.
6. When investing, keep bridgework out of contact with SOLDER STAND.
7. Do not leave SOLDER STAND in a heated furnace at a high temperature for a long period of time.
8. Be sure to clean SOLDER STAND with water while removing residual investment with a brush, dry and store the stand. Do not rub it with a sharp edge or the surface of SOLDER STAND may be damaged.
9. When investment in contact with a porcelain surface is heated, the porcelain surface may become rough. Cover the porcelain surface with a layer of wax.
10. When a dental alloy and solder containing silver are used, the porcelain surface and the inner surface of the furnace may be discolored.
11. Do not clean SOLDER STAND and a dental alloy together in an ultrasonic cleaner. Because of the difference in electrical potential between the two, both SOLDER STAND and the dental alloy may be discolored.
12. The correct powder-water ratio should be used. Otherwise proper properties can not be obtained.
13. SOLDER STAND may be discolored after heating; this will not adversely affect performance.
14. Some dental alloys may discolor part of SOLDERVEST QUICK during heating; this will not adversely affect performance.
15. Do not use flux for silver solder. Otherwise SOLDER STAND will corrode.

PACKAGES

1. SOLDERVEST QUICK
Powder 1.2kg (30×40g pack)
Water measure

2. SOLDER STAND

Plate	1 piece
Post (large)	5 pieces
Post (medium)	5 pieces
Post (small)	5 pieces

3. POST ONLY
9 pieces (3 pcs. each of Large, Medium, Small)

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