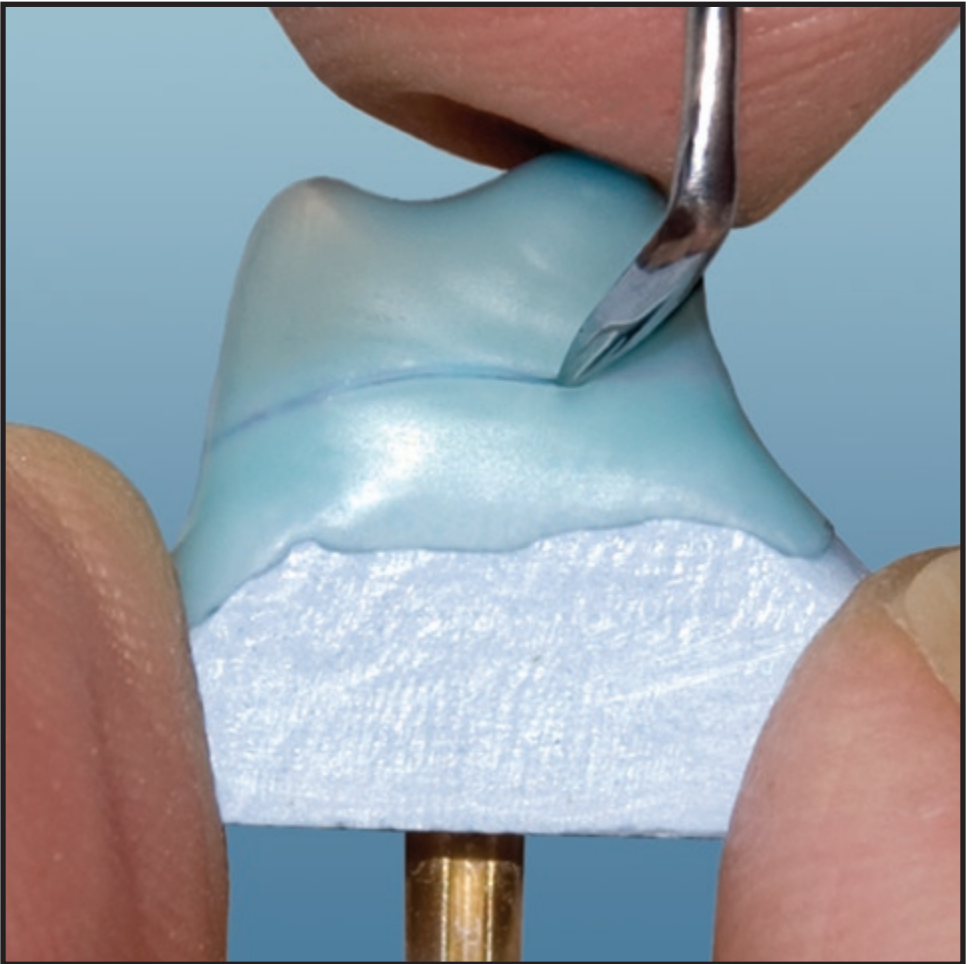




PTC

PERFECT MARGIN P R O C E D U R E

The following presents a very simple and effective method for creating perfect margins time after time without resealing or using special margin wax. The requirements for creating perfect margins begin long before wax application.





PERFECT MARGIN P R O C E D U R E

1. First and foremost, the impression from the dentist must be accurate; the margin sharp and clearly visible.
2. Die stone must be mixed properly and poured with no voids or rough surfaces.
3. The die must be trimmed with a #8 round bur or equivalent tool to create a 2mm wide ditch below the margin. The undercut will act as a guide for the waxing instrument when carving, so it must be deep enough for the rounded "A" Carver to fit in the groove under the margin.
4. All undercuts on the preparation surface must be filled and smoothed to the contours of the die.
5. Die sealer, die spacer, and die lube must all be compatible. Incompatible chemicals can cause softening and slow drying of the die spacer resulting in an inconsistent fit. Die sealer should be thin enough to soak into the stone completely and add no measurable thickness at the margin. Die spacer should have a solvent base that is compatible with the sealer allowing it to chemically combine with the sealer to create a tenacious bond to the die. The die spacer should apply easily with no puddling. Die spacer should dry very hard and smooth. It should never melt or become stringy when touched with a hot waxing instrument. And, finally, the spacer should remain firmly fixed to the die during steam cleaning. Ideally, die lube will be thin and not oily. Oily die lube or die lube that is too thick can result in loose fitting crowns and or open margins due to poor adaptation of the dipping wax.
6. Choosing the proper dipping wax is vital to the finished margin. After testing most of the popular dipping waxes, I have found that waxes with a high plastic content, such as PTC's Perfect Margin Dipping Wax, best fulfill the requirements for the perfect margin procedure. Plasticized waxes are tough, do not easily distort and have a viscosity that maintains sufficient thickness to easily form margins that can be finished without becoming too thin or serrated. Many technicians avoid plasticized waxes because they are difficult to carve, but when used with the proper technique this drawback is easily overcome.



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Note: PTC Perfect Margin Wax temperature is 195 degrees +/- 5 degrees. Adjust up or down to achieve the desired result.

STEP 1 Dipping the die.

After the die has been properly prepared and lubricated, hold the die between your thumb and index finger with the longest part of the die facing your palm. (Fig. 1) Dip the die into the wax just beyond the margin using a sweeping (rotating) motion, allowing the wax to flow around the die and flow across any occlusal concavity. Withdraw the die slowly from the wax allowing the longest portion of the die to be the last to leave the surface. Hesitate for a moment at the surface of the wax to allow the excess wax at the tip of the die to be sucked back into the molten surface. (Fig. 2) The wax should be .3 to .5 mm thick depending on your lab preference. It is recommended that you dip 5-7 units at a time to allow time for the dipped copings to cool.



Fig. 1



Fig. 2



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Step 2 Cut off excess wax.

After the wax has completely cooled, hold a sharp PTC WC-1 carver at a 90 degree angle to the die and cut off the excess wax below the margin. (Fig. 3) This cut will leave a ledge of wax as shown. (Fig. 4)

Fig. 3

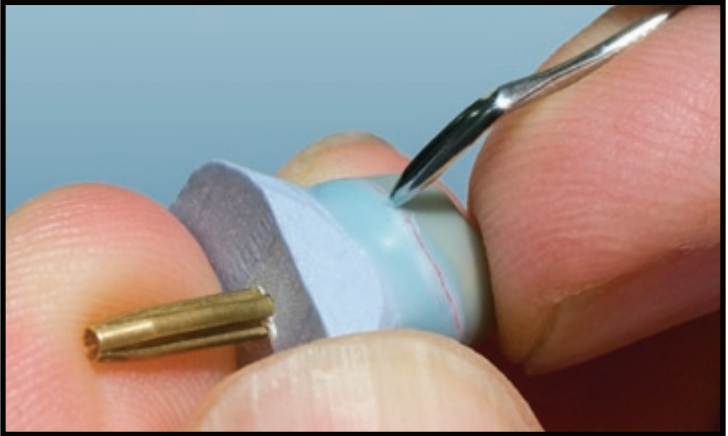


Fig. 4



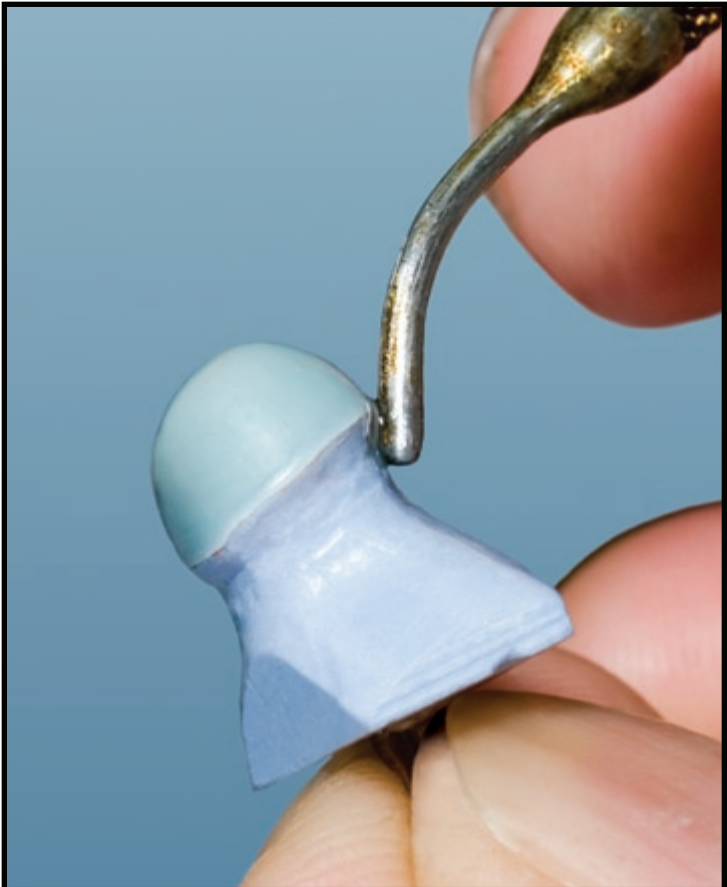


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Step 3 Seal the margin.

Holding the die with the margin down, place your hot electric waxer or waxing instrument at 45 degrees against the margin and with a wiping motion, (Fig. 5) flow the excess wax, at the margin, into the undercut. This will result in a very thin layer of wax covering the margin as well as a thin skirt of wax in the undercut.

Fig. 5





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Step 4 Fill the occlusal.

If you are waxing a coping or a framework with a collar, add the collar at this time. If you are waxing a full crown, carve around the occlusal table and remove the dip wax from the occlusal surface (Fig. 6). Seal the wax to the die and fill the occlusal with carving wax. (Fig. 7 & 8) This will prevent you from carving into the plasticized wax when carving occlusal anatomy.

Fig. 6

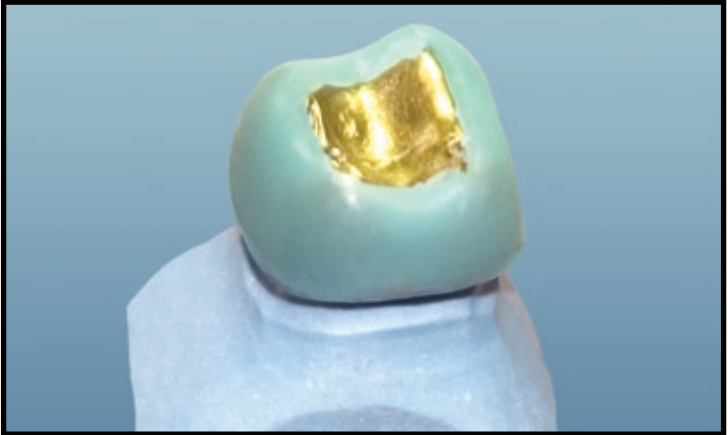
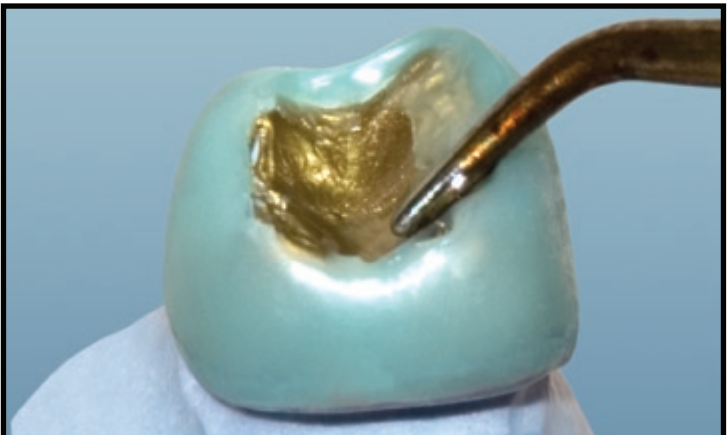


Fig. 7





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Fig. 8



Step 5

In most cases, there will not be an excessive amount of wax at the margin after completing the coping or full crown. If there is, carve the excess wax from below the margin and repeat Step (3) so there is only a very thin film of wax covering the margin

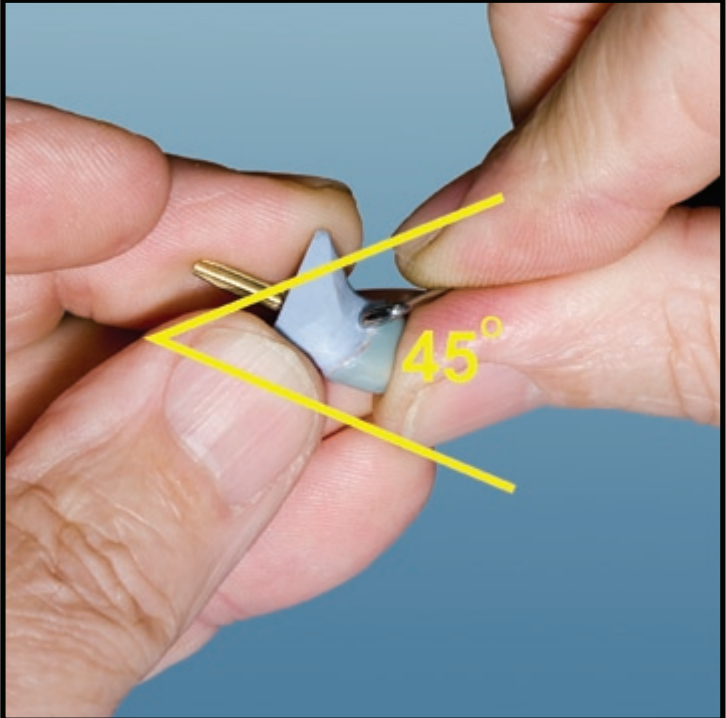


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Step 6 Trimming the margin.

Use the discoid end of the PTC WC-1 wax carver for this next step. Hold the instrument with the □ Hollenback end pointing away from you. Place the rounded end of the WC-1 firmly into the undercut at a 45 degree angle to the die. (Fig. 9) Using a carving motion toward you, slice away the wax below the margin. (Fig. 10) Be sure the instrument is positioned to cut the wax away, not tear it away. Using this technique you can literally carve away the bottom half of the red margin line. When correctly executed, this step creates a margin with a microscopic 45 degree bevel. This microscopic bevel provides enough thickness for accurate metal finishing of the margins without excessive thinning.

Fig. 9



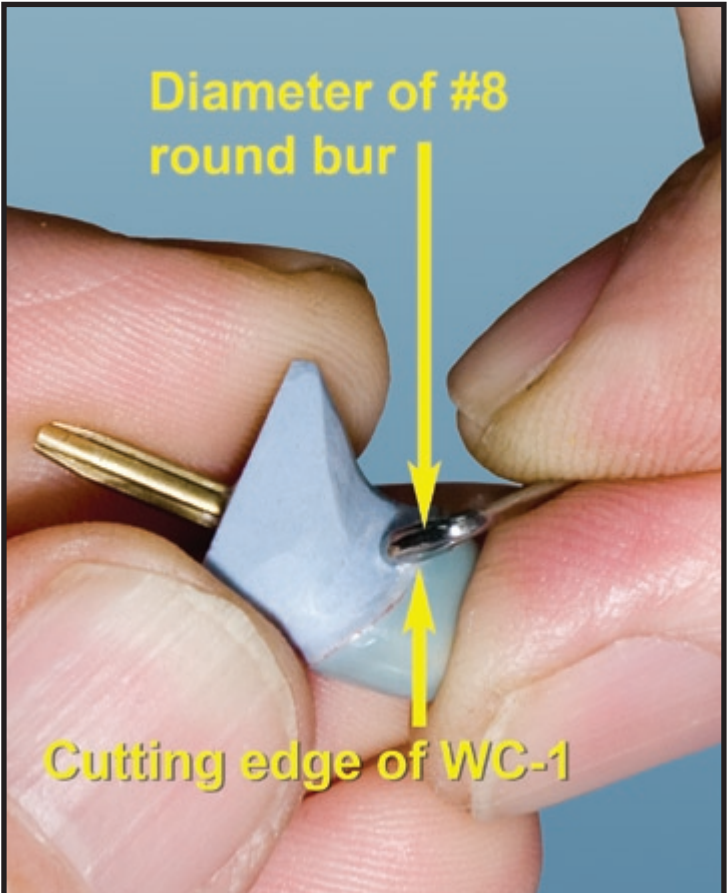


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Step 6 (continued)

In figure 10 it is important that you copy what you see EXACTLY. You are using the cutting edge of the instrument (arrow) to trim the wax. It is also imperative that the die be trimmed with a # 8 round bur. The tip of the instrument will fit exactly into the groove made by this bur.

Fig. 10





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Step 7 Polish and Seal.

Dip a Q-tip into die lube or debubblizer for lubrication. Place the Q-tip into the undercut and, while pressing firmly, burnish below the margin. (Fig. 11) This action thins and removes any wax overextensions that might be present. Do not rub directly on the margin or it will become too thin.

Step 8 Check for accuracy.

Finally remove the coping or crown from the die and, under magnification, inspect for any flash. If present, simply brush away with a fingertip. (Fig. 12)

Fig. 11



Fig. 12





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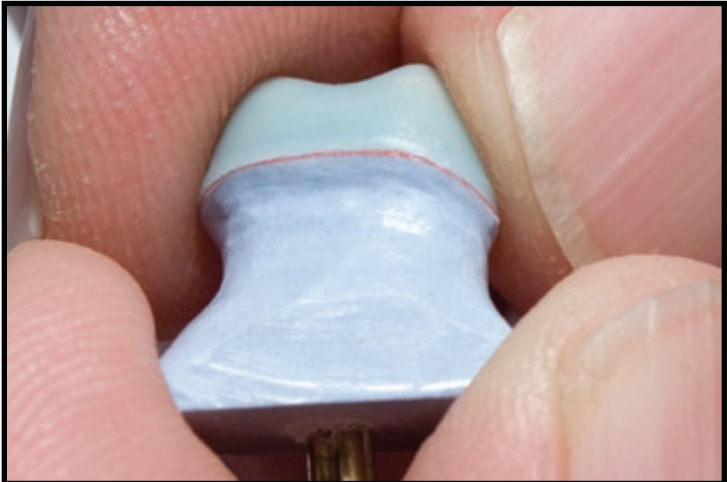
Step 9 Recheck.

Reseat the coping and recheck for overextensions or open margins.
(Fig. 13 & 14) If present, repeat Step (7).

Fig. 13



Fig. 14





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Productivity Training Corporation

360A Cochrane Circle • Morgan Hill, California 95037

toll free: (800) 448-8855 • direct: (408) 776-0433

online: www.ptcdental.com

Blue Dolphin Products ordering: www.bdpdental.com