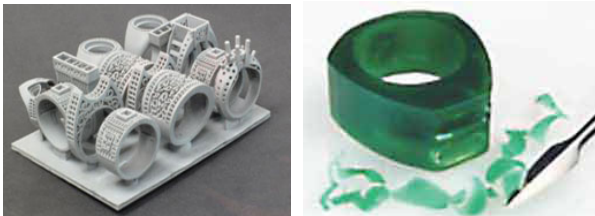


General Instructions for VLT® Silicone Molding Rubber

Instructional Datasheet

CASTALDO® VLT® Silicone Molding Rubber is a Very Low Temperature rubber compound especially designed for use in the lost wax casting method of making precious metal jewelry. It's ability to vulcanize at temperatures as low as 160 F / 71 C make it ideal for making tough, strong, long-lasting PRODUCTION rubber molds DIRECTLY from all types of plastic resin models created by CAD-CAM / Rapid Prototyping systems as well as from traditional wax carvings.



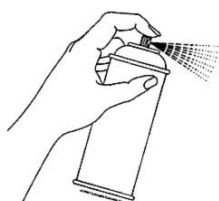
Use VLT with either traditional wax carvings or CAD-CAM Rapid Prototyping models.

CASTALDO® VLT® Silicone Molding Rubber can be vulcanized at a wide range of time and temperature combinations depending on the softening point and other characteristics of your model material. Below are some suggested combinations for a typical mold 1/19 mm thick:

- 88° C / 190° F for 30 minutes
- 82° C / 180° F for 45 minutes
- 76° C / 170° F for 60 minutes
- 71° C / 160° F for 90 minutes

In general, the choice of lower vulcanizing temperatures will result in slightly less rubber shrinkage. Higher temperatures will result in slightly more rubber shrinkage. Rubber shrinkage at 88o C / 190o F is 0.1%.

Most of the tools and techniques for using VLT® are similar to those used with our Super High Strength™, Econosil® and other silicone molding rubbers. A copy of the instructions for those products is enclosed.



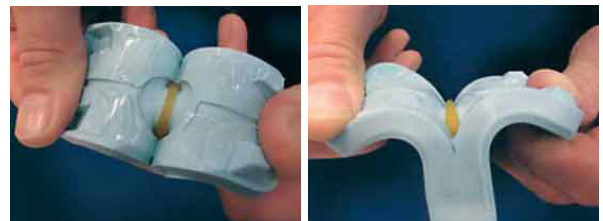
The only change from established mold-making techniques required when using CASTALDO® VLT® Silicone Molding Rubber may be the need to coat some plastic model with a release spray before vulcanizing to ensure easy release of the model after vulcanization. **DO NOT USE SILICONE SPRAYS WITH THIS PRODUCT.** Our CASTALDO® Resin Release™ is specially formulated for this purpose. Teflon® (PTFE) sprays also work very well, as do common household cooking oil sprays made with olive oil or canola oil, such as PAM®. Wax models usually do not need a release coating.

PLEASE NOTE: Because CASTALDO VLT® vulcanizes at such low temperatures it does not have the extended storage life of many of our other compounds. CASTALDO VLT® may SELF-VULCANIZE DURING STORAGE at high summer temperatures or in very warm climates.

During the summer months or in very warm climates the rubber should be kept in cold storage such as in a refrigerator or in a constantly air-conditioned room, but NOT below 32o F / 0o C. You may want to avoid storing more VLT rubber than is needed for immediate use. Similarly, long ocean freight shipments during very warm periods may affect the rubber. Possible solutions might be to avoid such shipments entirely during the summer months or ship smaller quantities via air freight.

Finished molds require no mold release spray. Wax patterns release easily because the rubber already contains anti-stick compounds.

When molding delicate models the risk of damage can be minimized by closing the vulcanizing press SLOWLY a little at a time to allow the rubber to soften and flow.



Molds made with CASTALDO® VLT® showing undamaged resin pattern

The cure system used with CASTALDO® VLT® Silicone Molding Rubber is NOT compatible with the cure system used with our natural rubber compounds such as White Label®,



Gold Label ® , Titanium Label™ or No Shrink Pink ® Mold frames, mold plates, models, sprue formers, etc. used with one type of rubber compound should be cleaned thoroughly with solvents before being used with the other type. A more practical approach may be to devote certain mold frames, mold plates, etc. solely to the use of silicone rubber compounds.

CASTALDO®VLT® Silicone Molding Rubber CANNOT be mixed in the same mold with CASTALDO® White Label ®, Gold Label ® , Titanium Label™ or No Shrink Pink ® rubbers for the above reason and also because the two types of rubber will not bond.

CASTALDO®VLT® Silicone Molding Rubber is compatible with all mold making techniques including mold cutting and powder and cream separation molds. It is particularly adaptable to the powder and cream separation processes since the parting line is so easily controlled. For patterns strong enough to resist some pressure, merely push the model into the unvulcanized rubber to the desired point. If not satisfied with the results, remove the model, smooth the rubber over with your finger or tool and re-insert the model.

CASTALDO®VLT® Silicone Molding Rubber is strong, but not as strong as natural rubber compounds such as White Label®, Gold Label®, Titanium Label™ and No Shrink Pink®. Remember to pull GENTLY while cutting the mold because of this difference.

CASTALDO®VLT® Silicone Molding Rubber CANNOT be burned in the usual manner to add sprues or correct details.

CAUTION: Vapors given off during vulcanization may produce temporary eye, nose and throat irritation in susceptible individuals. Use with adequate ventilation. See Safety Data Sheet for further details.

USERS PLEASE READ:

The information contained herein is believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use.

Goodwin Refractory Services Ltd warrants only that its products will meet its specifications. There is no warranty of merchantability of fitness for use, nor any other express or implied warranties. The user's exclusive remedy and Goodwin Refractory Services Ltd's sole liability is limited to refund of the purchase price or replacement of any product shown to be otherwise than as warranted. Goodwin Refractory Services Ltd will not be liable for incidental or consequential damages of any kind.

CASTALDO®VLT® Silicone Molding Rubber is intended for professional use only by persons familiar with jewelry casting techniques.

We are not responsible for misuse of our products or their use in conjunction with unsafe or improperly maintained equipment or for uses other than intended as jewelry casting mold making material.