

# URE-FIL™ Fillers

## Fillers For Smooth-On Resins and Rubbers



www.smooth-on.com

### PRODUCT OVERVIEW

Smooth-On URE-FIL™ fillers disperse easily in Smooth-On materials. They can be added to materials in different proportions to achieve a variety of working properties and effects. Some fillers are designed for cost-savings, others are designed for specific casting effects or improved physical properties. Other URE-FIL™ fillers are designed specifically for thickening materials for brush-on or trowelable application. The following chart can help you choose a URE-FIL™ filler based on your application. **More details about each URE-FIL™ Filler can be found on the reverse side of this document.** For granite casting effects - Smooth-On's Quarry Tone™ fillers can be added to urethane resins, rubbers and epoxy resins to create many different stone and granite effects. Visit [www.smooth-on.com](http://www.smooth-on.com) for more information.

### URE-FIL™ FILLER DETAIL

- **URE-FIL™ 3 - ceramic filler** which is added to **urethane resins and castable epoxies to reduce cost**. This filler is white in color and will give plastic castings a ceramic or porcelain-like finish. Recommended starting mix ratio is 1A to 1B to 1 part URE-FIL™ 3.
- **URE-FIL™ 5** is your best choice for creating a **wood grain** effect. Note: your mold must reflect the wood grain pattern of the original model. Mix 1 part filler with 1A:1B of **Smooth-Cast™ 320 resin** and cast into mold. After demold, apply wood stain or shoe polish to casting surface to bring out wood grain effect.
- **URE-FIL™ 7** mixes well with **urethane resins and castable epoxies** and will **improve dimensional stability** (reduce the shrinkage rate of some resins, for example). It is also often added to materials to make them flame-resistant. URE-FIL™ 7 can be mixed with Smooth-Cast™ 325 and SO-Strong™ color tints to **create marble effects**. The maximum amount that you can add to a resin before compromising the physical properties of the cured plastic would be 1A:1B to 2 parts filler. A mix ratio of 1A:1B to 3 parts filler will make the plastic trowelable, but the cured plastic will also be brittle.
- **URE-FIL™ 9 - fumed-silica based thickening agent** primarily used with liquid **urethane and silicone rubbers for brush-on moldmaking applications**. URE-FIL™ 9 is added in small amounts to the mixed rubber until the desired viscosity is achieved. URE-FIL™ 9 can also be added to **liquid urethane resins** to create casting effects and to thicken the material for trowelable casting applications.
- **URE-FIL™ 11 is a fiber-based filler** that can be added to Smooth-On **urethane and silicone rubbers, urethane plastics and epoxies to thicken for brush-on applications**. URE-FIL™ 11 can be used with all Smooth-On silicones, including those which do not respond to THI-VEX™ such as Mold Max™ 40.
- **URE-FIL™ 13 is a poly-blend filler** used to thicken **urethane plastics and epoxies for vertical surface application**. URE-FIL™ 13 is added in small amounts for thickening, which allows for additional strength in cured plastic pieces. Flexible urethane mixed with URE-FIL™ 13 can produce a carveable and stampable finish, useful for zoological and theming applications. For example, Simpack™ 80A combined with URE-FIL™ 13 is often used for vine-making applications. See **Vine Making** Technical Bulletin.
- **URE-FIL™ 15 - micro-balloons** that can be added to Smooth-On **urethane plastics and epoxies to create very light weight castings**. Castings which float on water can be created by using proper proportions of URE-FIL™ 15. A casting resin filled with a large proportion of URE-FIL™ 15 can be described as a 'syntactic foam'. Syntactic foams are non-expanding foams which are stiffer, stronger and more water resistant than water-blown expanding urethane foams of the same density.

**Directions For Use** - URE-FIL™ fillers must be thoroughly dispersed in liquid rubber or resin to a uniform consistency. When adding large concentrations of filler, it is recommended to add the filler to completely mixed rubber or resin - combine both parts A and B of rubber or resin, mix thoroughly, then add filler. Mix the filler in and confirm that there are no lumps of filler present. Often, employing the 'double-mix and pour' technique can produce better results.

**Guarding Against Moisture** - All powder fillers will absorb atmospheric moisture over time which will react with urethane materials. If you experience bubbling or foaming in your resin/filler mix, your filler probably contains moisture.

**Remedy:** Line a cookie sheet with foil and spread filler evenly over the cookie sheet at 3/8"-1/2" thickness (0.95 cm-1.25 cm). Place in an oven on warm setting (150°F / 60°C) and bake for 4 hours. Remove cookie sheet from oven (don't burn yourself!). Let filler cool to room temperature before mixing with urethane materials.

**Storage** - To prevent moisture absorption, use filler as quickly as possible after purchasing. Decant filler from container and replace lid immediately...do not leave container opened for more than a minute. If filler will be stored for prolonged periods, obtain dessicant pouches at your local hobby/arts and crafts store and place one or two dessicant pouches in container. Replace used dessicant pouches every other time you open container. Make sure container lid is secure before storing.

**KEY**

- 0= Do Not Use
- \*= Minimal Performance
- \*\*= Adequate Performance
- \*\*\*= Good Performance
- \*\*\*\*= Best Performance

**CHOOSING A URE-FIL™ FILLER BY APPLICATION**

| <b>APPLICATION</b>                    | <b>URE-FIL™ 3</b> | <b>URE-FIL™ 5</b> | <b>URE-FIL™ 7</b> | <b>URE-FIL™ 9</b> | <b>URE-FIL™ 11</b> | <b>URE-FIL™ 13</b> | <b>URE-FIL™ 15</b> |
|---------------------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| Reducing Cost Of Resin Castings       | ****              | **                | 0                 | 0                 | 0                  | 0                  | ***                |
| Reducing Weight Of Resin Castings     | **                | *                 | 0                 | 0                 | *                  | 0                  | ****               |
| Marble Casting Effects                | *                 | 0                 | ****              | 0                 | *                  | 0                  | 0                  |
| Wood Casting Effects                  | 0                 | ****              | 0                 | 0                 | 0                  | 0                  | 0                  |
| Thickening Resins                     | *                 | **                | *                 | ***               | ****               | ****               | 0                  |
| Thickening Silicone Rubbers           | 0                 | 0                 | 0                 | ****              | ****               | 0                  | 0                  |
| Thickening Urethane Rubbers           | 0                 | 0                 | 0                 | ****              | ****               | 0                  | 0                  |
| Reducing Shrinkage Of Resin Castings  | **                | 0                 | ****              | 0                 | 0                  | 0                  | 0                  |
| Increasing Rigidity Of Resin Castings | 0                 | 0                 | ****              | 0                 | 0                  | 0                  | 0                  |
| Increasing Flame Resistance           | 0                 | 0                 | ****              | 0                 | 0                  | 0                  | 0                  |

**Safety First!**

The material safety data sheet (MSDS) for this or any Smooth-On product should be read before using and is available on request. All Smooth-On products are safe to use if directions are read and followed carefully.

Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store together with volatile chemicals as they may be absorbed onto product.

Approved respirator may be necessary if local exhaust ventilation is not adequate. Wear eye/face protection. Wear suitable protective clothing. No special protective equipment required. Handle in accordance with good industrial hygiene and safety practice.

**Keep Out Of Reach Of Children.**

**IMPORTANT:** The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe upon a patent. User shall determine the suitability of the product for the intended application and assume all risk and liability whatsoever in connection therewith.



**Call Us Anytime With Questions About Your Application.**

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[www.smooth-on.com](http://www.smooth-on.com) is loaded with information about mold making, casting and more.