

Detailed Material Collection and Preparation for Bike Inner Tube Rubber

1. SOURCE AND COLLECT THE TUBES - gloves, bag, or bin

You can't order post-consumer rubber inner tubes cleaned and ready for use. They are not yet integrated into our raw materials economy. The waste material is free, but must be sourced, collected, and prepared. Fortunately it is a very low impact process and scavenging your own post-consumer source material provides a different perspective on materials and their continuum. Retail bike shops, repair shops, and friends who bike are the best bets in interrupting an inner tube's path to the landfill. Waste tubes may not be on hand when you need them, but many people are willing to set them aside for you. Tubes may be a bit dirty, so it is a good idea to bring gloves and a bag or bin to transport the tubes.

2. REMOVE THE VALVE STEMS - gloves, scissors, dust mask

Unless you plan on using a tube as is, you will remove the valve stem before cleaning the tube. Cut on either side of the valve stem and set the stem aside. Metal recyclers may take the stems or they can be used for other designs. The white powder inside some tubes is talc and it keeps the rubber from sticking to itself. If you are cutting a lot of tubes and it is getting into the air you can wear a dust mask. It is not a known carcinogen, but like any airborne dust-like particles it can cause respiratory annoyance. You can wear gloves while preparing the tubes if you are irritated by talc or if it dries your skin. It is a good idea to keep aside a selection of uncut tubes for future experimentation. You don't want to cut up everything you have into sections until you are familiar with the material and what you can and want to do with it. On rare occasions a tube may have a slime inside or sticky fix a flat substance and must be discarded.

3. CLEANING AND DRYING THE TUBES - washing machine, soap, sponge, dryer or rack

The wonderful thing about this type of rubber is that it cleans up easily. Dirt doesn't sink in, so the dirt on the outside or any talc on the inside comes off with a quick wash. The rubber can be hand washed with a sponge and biodegradable soap and water or tossed into a standard washing machine. Fill the washer up to 3/4 full of devalved tubes and be sure the rubber is evenly distributed so that washer can spin properly. If you are cleaning tubes with the valve stems on you can just wipe them with a damp, soapy sponge.

To save electricity, and its associated environmental impacts, hang or lay the rubber to dry indoors or outdoors on sunny days. The black material heats up quickly and flipping it over when one side has dried speeds the process. The rubber can also go in a dryer for approximately 5 minutes, at which point check and move the rubber around a bit. Dry for a few more minutes if needed, but do not dry too long due to excessive heat build up.

4. SORT BY TUBE SIZE, THICKNESS, AND FOR INTERESTING MARKINGS - ruler

Bicycle, motorcycle and scooter tubes vary in size and type with everything from thin racing tubes to wide mountain bike tubes. The distance from the inside diameter to the outside diameter varies greatly as does the circumference. These measurements and the size of the resulting cut rubber pieces determines what can be made from which tubes. You can sort your tubes either before or after cleaning. And while sorting for widths and overall circumference sizes, it is important to watch for material of inferior quality or tubes that may have tears or otherwise damaged sections. Next in the process is sorting for thickness of material within these same categories. Different thicknesses of the material can be better for making rubber stamps and other items. Thicker rubber is also stronger and can be less stretchy than thinner rubber. On rare occasions a tube may be too thick or have a different flexibility that is not as desirable.

The last stage in the sorting process would be that of aesthetics. Used tubes have a variety of markings. Thin raised lines are generally part of the original manufacturing process and are dispersed geometrically over the tubes. Nearly every tube has some sort of writing and/or numbers on it. This information can appear in colors or white or might be raised on the surface.

5. DESIGN AND RECRAFT

Having removed the valve stems and washed and sorted the tubes, you now have a new material for handcrafting. You can focus on design, efficient material use and aesthetics. Consider the qualities of rubber that you wish to leverage as you come up with ideas.

