

When harvesting silk, the cocoons are collected and the pupae inside them are killed to stop them from hatching, which would damage the cocoon. This is done in a variety of ways, such as drying out the cocoons (which also allows them to be stored) or boiling them. Boiling the cocoons to dissolve the glue-like protein sericin is also the first step in the silk reeling process. The cocoons are then rubbed to loosen the tangled filament. The waste silk, called *frison*, is removed, and the end of the silk filament is unraveled by hand or by machine. One silk filament is too fragile to be used as thread by itself, so six to nine cocoon filaments are twisted together. As this happens, the thread is reeled onto a winding bobbin. When one of the cocoons is unwound completely, another is automatically twisted into the thread by the machine. This continues until the bobbin is full, which requires about 300 cocoons. Next, the raw silk is given a bath with soap and other chemicals to wash out the remaining sericin and make the silk absorb water. The initial silk reeling process stretches the silk fibers out, so the next step is to re-spin the thread onto a different bobbin to relax it. The silk is now ready to be used to make cloth or other products. Roughly 2,000 cocoons are needed to make a single silk dress.