

Versatile silicones for medical devices

Choosing the right HCR for your application

High consistency silicone rubbers (HCRs) from NuSil® offer versatile physical properties and proven biocompatibility, making them well-suited for a full range of medical applications and fabrication methods. Whether you're extruding tubing, calendaring sheeting or molding components for medical applications, NuSil HCRs can be tuned to your specific processing and end-use requirements.

One of the most unique properties of HCRs is "green strength." Uncured HCRs have a clay-like consistency that can be shaped into a given dimension or form, and will hold that shape until it is cured.

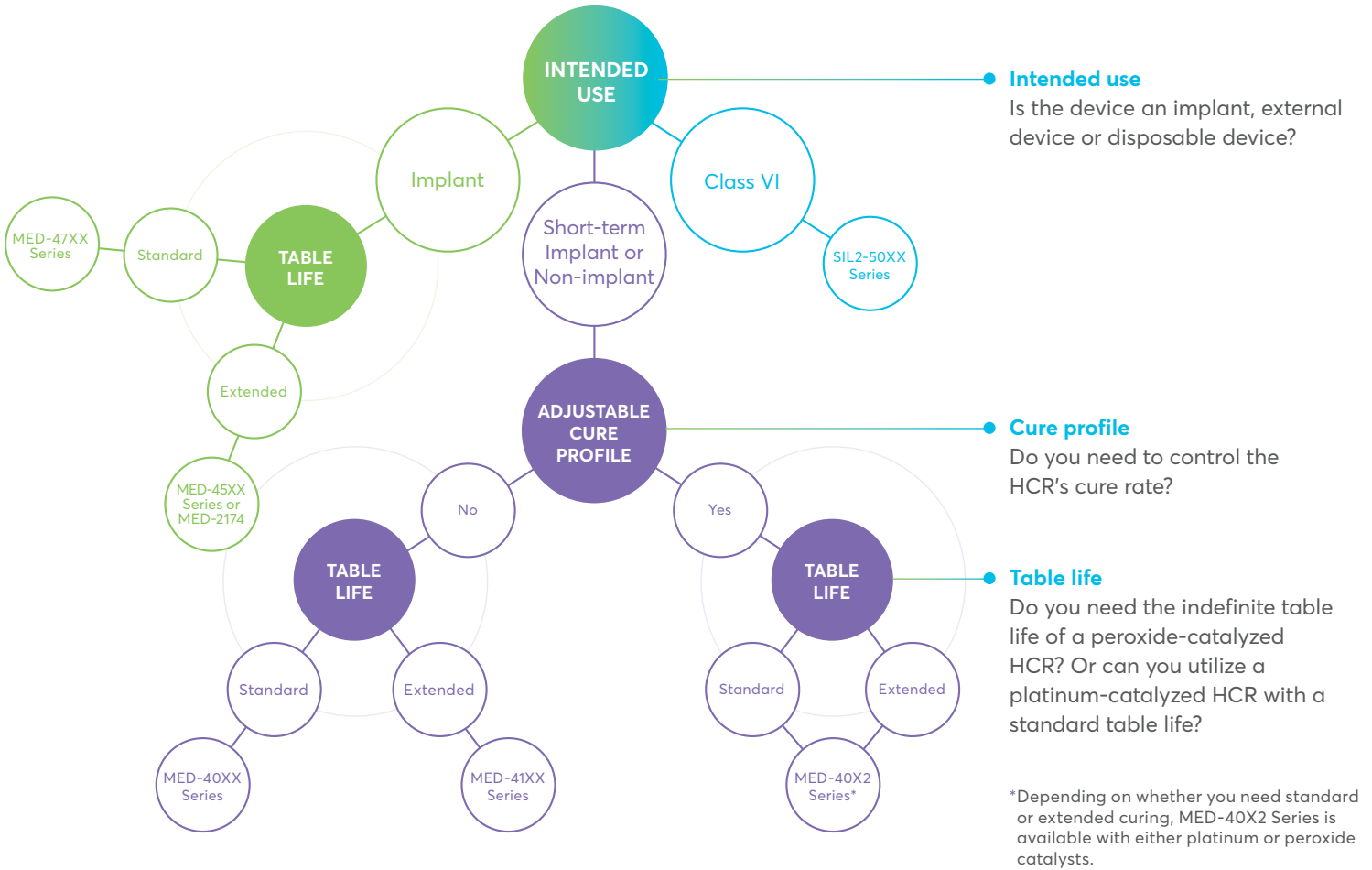
NuSil offers both peroxide-catalyzed and platinum-catalyzed HCR systems, as well as uncatalyzed HCRs. These materials are formed into finished products using three main types of fabrication processes:

- **Extrusion:** For continuous profiles, such as tubing, ribbon or rod. In this process, the HCR is forced through a die to craft the intended shape. It is an efficient processing method that offers design flexibility.
- **Transfer or compression molding:** Best suited for creating solid or hollow parts, such as cuffs, valves or balloons. Typically, transfer or compression molding with HCR is a more economical molding process for low to medium volume parts.
- **Calendering:** Creates continuous sheeting for further processing such as die-cutting or slitting, to incorporate reinforcing layers or apply a silicone coating to a film or fabric. The HCRs are processed through a series of rollers that form and flatten the material into sheets with thicknesses ranging between 0.005 to 0.250 inches.



CHOOSING THE RIGHT HCR FOR YOUR APPLICATION

NuSil has a full portfolio of HCRs that can be customized to a device’s requirements. Choosing the right HCR depends on these key factors:



➔ Contact NuSil® to get started

Choosing the right HCR for your medical device can be challenging. The NuSil team is ready with expert insights, technical expertise and support to meet your unique needs.

www.avantorsciences.com/nusil

To learn more, visit avantorsciences.com/nusil/HCR or contact NuSil experts today at silicone@avantorsciencesgcc.com or +1 (805) 684-8780.

It is the sole responsibility of each purchaser to ensure that any use of these materials is safe and complies with all applicable laws and regulations. It is the user’s responsibility to adequately test and determine the safety and suitability for their applications, and NuSil Technology LLC makes no warranty concerning fitness for any use or purpose.
©2025 Avantor, Inc. All rights reserved. Trademarks are owned by Avantor, Inc., or its affiliates unless otherwise noted.