

MATERIAL OPTIONS

1095 Carbon Steel

Available in either Rc 50 spring temper or custom hardened and tempered up to Rc 62, AISI 1095 is an economical material choice where corrosion is not expected to be a problem.

Heat-Treated Stainless Steels

Suitable for industrial and medical applications, these 400 series martensitic steels are much more corrosion-resistant than carbon steels and can be sharpened to equally-keen edge sharpness. Specialty Blades maintains an extensive inventory of Razor Blade Stainless in thicknesses from .010"-.062" thick, as well as 420 "Cutlery Grade" Stainless.

301 Stainless, 17-4 & 17-7 PH Stainless

These austenitic stainless steels provide more corrosion and shock resistance than 400 series martensitic steels, but sacrifice some wear resistance and hardness.

High-Speed Steels

High-speed steels offer high wear resistance. M-2 provides up to six times more wear than conventional blade steel, while M-4 is three times more durable than M-2. High-speed steels also have excellent temper resistance, holding their hardness even when exposed to temperatures up to 1,000° F.



Specialty Blades can now make a razor blade in any shape or size from M-2 HIGH SPEED STEEL!!!

We have now developed **unique technology** that allows us to be the **only razor blade manufacturer in the world that can produce a razor blade from M-2 high speed steel at a competitive cost!**

Tool Steels

This family of steels offers a wide array of material choices not available from producers of strip-sharpened blades. Choose the high wear of D-2, the shock resistance of S-7, the corrosion resistance of ATS 34, the balanced wear and toughness properties of A-2, or give us a call for even more options.

Extreme-Wear Tool Steels

With blade life up to 25 times greater than conventional blade steel, A-7, A-11 and EXTRA WEAR tool steels offer superior wear resistance to other steels and are more shock resistant than carbide or ceramic.

High-Performance Zirconia Ceramic

Recent developments have made it possible to produce extremely sharp blades from transformation-toughened zirconia. Although not recommended for high-shock or lateral stress applications, the Rc 75 hardness and low friction coefficient make zirconia particularly effective in film slitting operations, where blade life can be more than 100 times that of conventional steel.

Tungsten Carbide

Carbide with submicron grain size can be sharpened to a razor edge without the inherent brittleness frequently associated with conventional carbide. Although not as shock-resistant as steel, carbide is extremely wear resistant. If chipping and breakage can be avoided, blade life will typically be 50+ times that of conventional blade steels.

Coatings

With many materials, desirable qualities can be enhanced by applying wear resistant TiN, TiC, TiCN Ceramic (aka Boron Carbide), or Armoloy® coatings or dry film lubricant coatings such as Teflon®.

Also of interest in many surgical applications is the use of Parylene coating. Parlene is a conformal coating that provides a strong moisture barrier and is also a good electronic insulator.

There is no single blade material that's appropriate for all applications, so Specialty Blades offers a wide range of materials from which to choose.

We advise customers to **"Optimize-not compromise"** when selecting a blade material to ensure the right mix of properties for each individual application.

The more commonly-used blade materials are briefly discussed here.

For more detailed information, please refer to the Materials section of our website at www.specialtyblades.com.



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