Canoe Materials

When you shop for a canoe, you will limit your choices based on Types, Design, and Materials. Not only will you find that manufacturers offer the same canoe designs in different materials, but they also use a wide variety of proprietary names and technical terms. The choices can be overwhelming; we've compiled the following synopsis to get you started:

Fiberglass Composites
In the world of canoes, "Composite" means fibers formed in a mold and bonded with resins to make a hull. Any marriage of fibers and resin is a composite, but the most well known material is "Fiberglass". The term "fiberglass composite" is often incorrectly applied to all composite hulls; true fiberglass composites are many layers of strategically cut, woven fabrics with fiberglass and resin, carefully crafted by hand. Be wary of canoes that use fiberglass alone, as the end product may be brittle. fiberglass Composite canoes are light, rigid and strong. When compared to other materials, they can be shaped more finely making cleaner entry lines, resulting in an efficient and quiet ride. Canoes made of fiberglass are easy to repair; a properly applied patch is hardly noticeable.

Kevlar® Composites
Kevlar is a woven composite fabric that is 5-10 times stronger than an equal weight of steel. Canoes made with Kevlar are generally 20% lighter than canoes made with fiberglass. Kevlar is sometimes used alone, but it is frequently combined with other fabrics such as fiberglass or graphite. Kevlar is the material of choice for trimming weight: off of a canoe, a feature you'll appreciate on a trip with frequent portages. Like fiberglass, Kevlar is easy to repair and kits are available from dealers and manufacturers. Good Kevlar composite canoes may be expensive, but their light weight, durability, and performance can make them a long-term value.

Royalex®
Royalex is a plastic laminate with a core of expanded closed cell-foam. Canoes made of this material are great for shallow water and whitewater, and stand up to the most rugged conditions. Compared to Fiberglass and Kevlar composites, these canoes are heavier, but far more resilient to impact and abrasion. Some Royalex hulls are designed for whitewater and dangerous rapids. Under almost any circumstances, these are greatly superior to hulls made of aluminum or polyethylene. Royalex will expand and contract with temperature—some seasonal maintenance may be required, especially if the canoe has wood trim. If damaged, a Royalex hull is difficult to repair. Best to consult a canoe shop for a professional repair. As always, review the manufacturer's product information thoroughly. While not as rigid as wood or composites, Royalex canoes are efficient and handle well for their intended use.

Wood
A fine wood canoe can be both a work of art and a joy to paddle. Most are
handcrafters, using traditional canoe forms and construction techniques. All are laborsome to build, and a bit fragile, but wood construction also yields high performance. Wood canoes are surprisingly versatile—from lake to river, wilderness to expedition tripping—paddlers in almost every discipline treasure these crafts. The manufactured weight will vary with selection of wood, the exterior skin, paint, and varnish. Wood canoes are easy to repair and live a hundred years or longer when properly cared for and stored in the off-season. Hand-built canoes will be on the higher end of the price scale, but their fans say that if you paddle a well-designed wooden canoe, you never look back.

Polyethylene
Canoes made of polyethylene are a durable, low-cost option. Built by putting plastic pellets into a heated mold, these canoes are mass-produced and are box for recreational paddling. Polyethylene canoes are heavier than Royalex, less rigid, and more susceptible to being misshapen by the hot sun. Some polyethylene hulls will even change shape while you paddle, betraying their lack of rigidity. While you will not find high-performance designs in polyethylene, they are affordable and will take a beating—great for the cabin or the occasional paddler.

Aluminum
Aluminum canoes were the standard for decades, and new models are still made, but they are less popular in today’s market. The complex curves needed to create a sleek-yet-stable hull are difficult to form with aluminum, so you will not see sophisticated designs in aluminum. While lighter than wood canoes, they are heavy compared to newer materials, and therefore best for recreational use rather than wilderness trips. The primary benefit of aluminum is durability—they are slow in the water, but a great choice if the kids are prone to hitting rocks. Aluminum canoes can be repaired by welding which can leave noticeable scars and abrasive ridges.