Trek aluminum bicycles represent the most advanced technology available to cyclists today. Super-strong alloys and computer-designed legs, combined with aerospace bonding, produce a bicycle that is light, strong and fast. "One of the best all-around racing bikes we've tried," says Bicycle Magazine (Oct. 1985).

Using an industry leader in building quality silver-braced Reynolds 531 frames, TREK Corporation has dedicated much research and testing to the design of the best aluminum bicycles on the market. Using Matrix 7178 aluminum alloy—the strongest available—TREK is producing frames that are lightweight, resilient, and responsive. Backed by a lifetime warranty, TREK aluminum bicycles have every advantage.

**TREK MATRIX IS A STRONGER ALUMINUM ALLOY.** The super-strong, unworkable Matrix 7178 alloy is stronger than other commonly used aluminum alloys. When bent, TREK frames are braced, not welded, they retain the original strength of the Matrix alloy.

**TREK IS A LIGHTWEIGHT.** TREK Matrix 7178 tubing is 66% lighter than steel. This produces a frame 20% lighter and 20% stiffer than a standard alloy steel frame. On testing the TREK 2000, Bicycle Guide (Aug. 1985) declared: "The same stiffness you would get with a stout steel frame, at a weight savings of about 12 lbs."

**AEOSPACE EPOXY BONDING PROVIDES TENS OF STRENGTH.** The same type of adhesive that holds tires onto the wings of an F-16 fighter plane is used to bond TREK aluminum frames. This process creates a bond so strong it would take more than nine tons of energy to pull a tube straight out of a joint. Adhesive bonding does not require heat, so TREK aluminum frames retain all the strength built into the alloy. Furthermore, since TREK aluminum construction does not need post-welding heat treatment, the frame is guaranteed to meet existing standards of accuracy in alignment. It's a technique so effective, TREK uses it on the rigid model 8000 Mountain Bike and the new 2500 carbon-fiber composite model.

**MID-SIZED TUBING IS ENGINEERED FOR STRENGTH AND LIGHTNESS.** Tubing diameter and thickness is directly related to strength and comfort. By using superior alloys and computer modeling (CAD), TREK engineered the ideal mid-sized tubing dimensions. As a result, TREK Matrix frames are stiff and efficient for a comfortable and powerful ride. By contrast, oversized, welded aluminum frames result in a heavier, more rigid frame and a harsher ride.

**IMPROVED SHOCK ABSORPTION MEANS GREATER COMFORT.** TREK aluminum frames have better shock absorbing qualities than steel or welded aluminum frames. That means you get a more comfortable ride, over any rough road. Bicycle Guide (Aug. 1985) noted: "You get a little shock absorption beyond what you'll find in a steel frame."

**TREK ALUMINUM FRAMES ARE DURABLE.** In repetitive durability tests, a TREK 2000 frame withstood more than 30,000 bending cycles. Under the same tests, braze aluminum and welded aluminum frames failed at fewer than 10,000 cycles. This durability is a result of the high-fatigue strength of the Matrix 7178 alloy and the balance of strength in the tubing, lug and bonding system.

**INTERNAL LUGS PROVIDE STRENGTH AND ACCURACY WHERE IT COUNTS.** These lugs reinforce the joint for maximum strength and accuracy.

** sources:**