



Carbon Fiber Driveshafts

QA1's carbon fiber driveshafts are lighter, stiffer and stronger than aluminum, steel and carbon fiber designs all while providing dramatic safety benefits. For the highest quality and performance, all of QA1's driveshafts are engineered, filament wound and balanced in-house, in Lakeville, Minnesota - a necessary process to design and produce the correct torsional stiffness specifications for world class carbon fiber driveshafts. QA1 is able to customize tube length, wall thickness and fiber layup, enabling our carbon fiber driveshafts to be designed and wound for specific applications.

QA1 CARBON FIBER DRIVESHAFTS DISSECTED

UNIFORM WALL THICKNESS

QA1's in-house winding machines provide a uniform wall thickness that is created by optimum fiber lay up to ensure high RPM stability as well as extreme torque capacities.

3M™ MATRIX RESIN

3M™ Matrix Resin uses spherical nano scale silica that provides improved abrasion resistance and longevity, higher compressive strength and minimal water absorption for increased torque capacity and longevity. This resin is exclusive to QA1 driveshafts and is what gives a QA1 driveshaft its distinctive blue tint.

SURFACE PROTECTION FOR AGGRESSIVE ENVIRONMENTS

Our thoroughly engineered surface protection withstands extreme racing environments and provides worry-free performance.

PRECISION CNC MACHINED FORGED TUBE YOKES

7075 forged aluminum tube yokes are CNC machined to ensure proper axial alignment to prevent high RPM unbalance. These tube yokes are specially developed for QA1's bonding technology.

HIGH STRENGTH UNIVERSAL JOINTS

QA1's driveshafts feature high strength alloy universal joints that provide durability, high torque capacity and are sealed for maximum strength and no maintenance.

11 STEP BONDING PROCEDURE

QA1 has developed a proprietary 11 step bonding procedure that utilizes an aerospace two part epoxy adhesive. This process ensures a better balance and minimal material waste.

HIGH SPEED BALANCED FOR SMOOTH OPERATION

Precision balance tolerance ensures a vibration-free shaft, which also extends universal joint life.

REDUCES NOISE, VIBRATION AND HARSHNESS (NVH)

Harmonic testing is done to determine the natural frequency of the driveshaft and a modal analysis is performed to ensure the composite driveshaft meets the applications' requirements for NVH.

THOROUGHLY TESTED DURING AND AFTER PRODUCTION

Not only are the finished carbon fiber driveshafts torsion tested, balanced and serialized, but the materials used to make them are tested throughout the process as well. Some of the in-house material tests include tension, compression, shear, three point bend and surface roughness. We also perform imaging techniques with a high magnification microscope to analyze the composites for fiber volume, layer analysis and to avoid potential void content.

Proudly made
in Lakeville, MN



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