



DRIVELINE TECHNOLOGY SYSTEM

Tubes, components, & equipment for high performance carbon fiber driveshafts

STREET
STRAIGHT LINE
CIRCLE TRACK
POWER TAKE OFF
LIFTED
MARINE
INDUSTRIAL
AGRICULTURE

2022 DRIVELINE TECHNOLOGY SYSTEM CATALOG
DISTRIBUTOR TERRITORIES AVAILABLE NOW

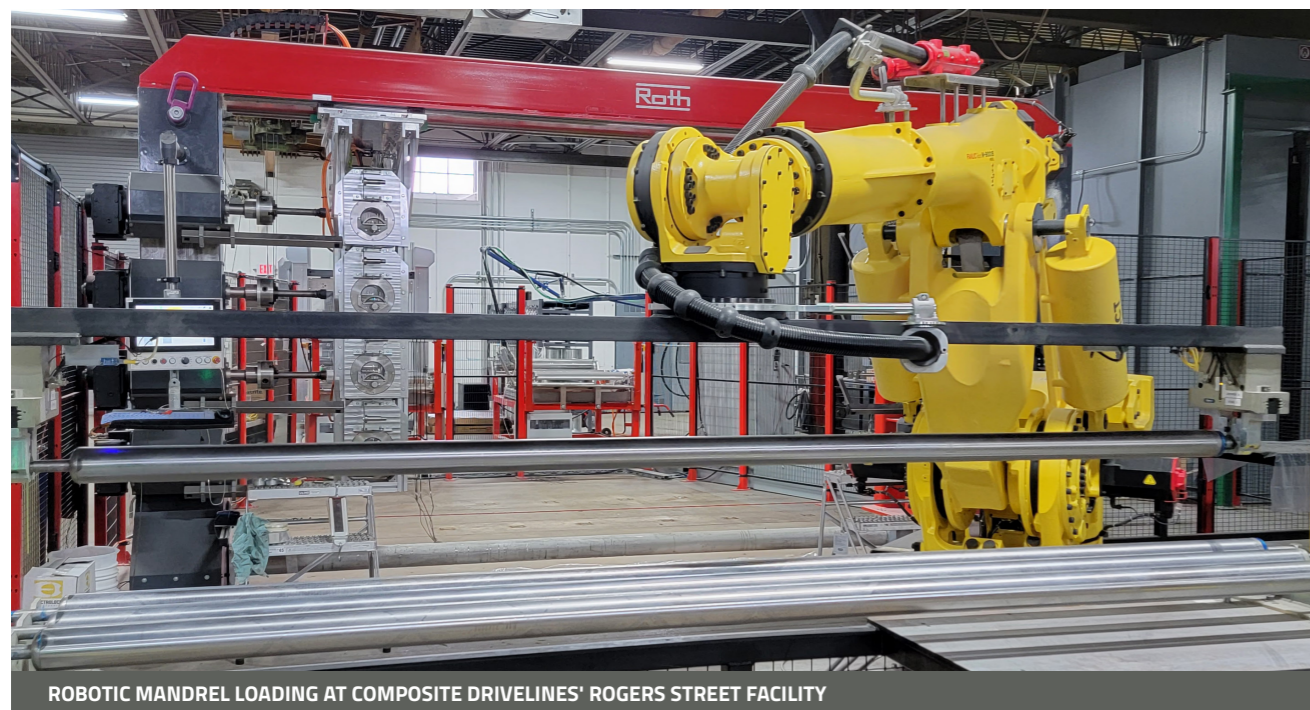
IT'S NICE TO RE-MEET YOU.



WE'RE COMPOSITE DRIVELINES, LOCATED IN MILWAUKEE, WISCONSIN.

Composite Drivelines was founded in 2017 to focus solely on carbon fiber driveshafts, driveline products, and bond yokes for the automotive aftermarket. Our history is rooted in Amalga Composites, Inc., one of the early pioneers in the US for composite tubes and structures. Amalga Composites, Inc. was founded in 1966 in Milwaukee, WI and has been under the same ownership since 1989.

The Composite Drivelines' management team consists of expert composite and doctoral level polymer engineers. For over 55 years, we've provided superior solutions that replace steel and aluminum with composites for applications in the automotive, oil, military, marine, aeronautics, and medical industries. We are one of the largest independent filament winders and manufacturers of composite tubing in the nation.



ROBOTIC MANDREL LOADING AT COMPOSITE DRIVELINES' ROGERS STREET FACILITY



In the past 25 years, our engineering team's focus has been carbon fiber power transmission development for the industrial and automotive sectors.

Utilizing Amalga Composites' knowledge of filament winding, we at Composite Drivelines are proud to have engineered, developed, and patented a complete system for carbon fiber driveshafts. This system includes an extensive list of tubes, custom engineered components, equipment for proper assembly, and engineering support. Family-owned, we now offer manufacturer-direct solutions to expert driveline specialists only – and at a competitive price.

We look forward to supporting your driveline needs and **changing the system, together.**

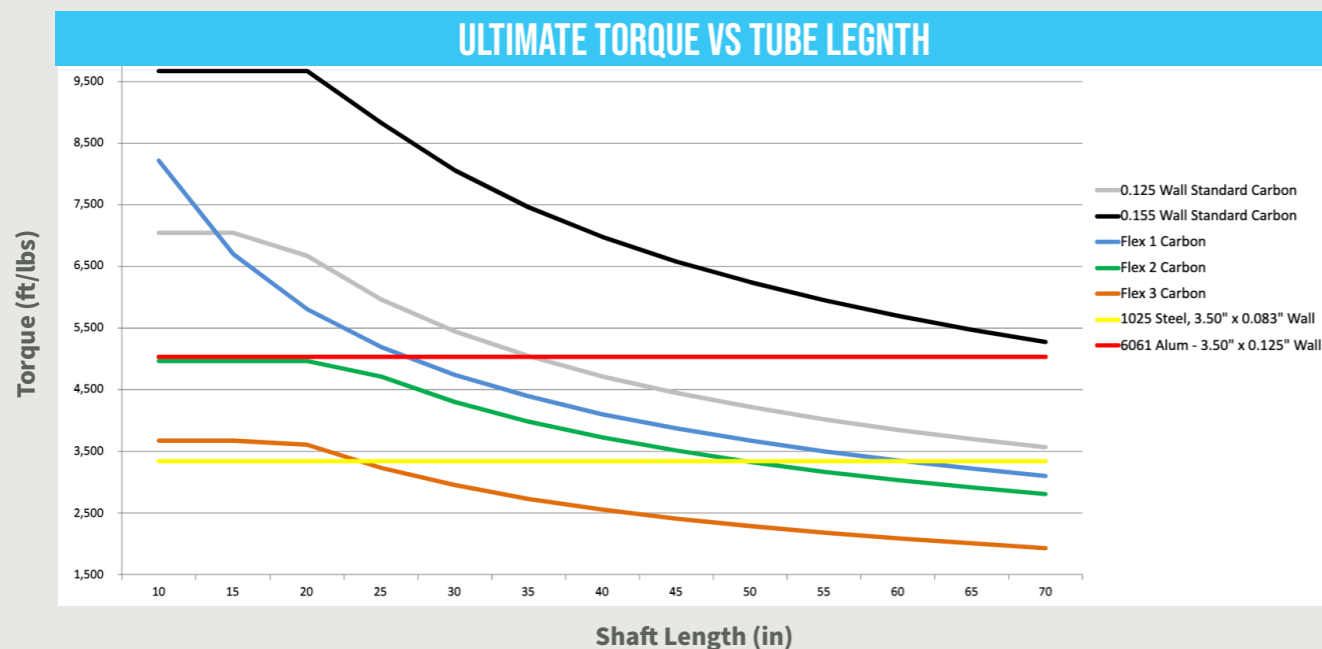
55+ YEARS

OF CARBON FIBER COMPOSITE EXPERIENCE. 25 YEARS OF RESEARCH & TESTING. 1 EXPERTLY ENGINEERED DRIVELINE SYSTEM.

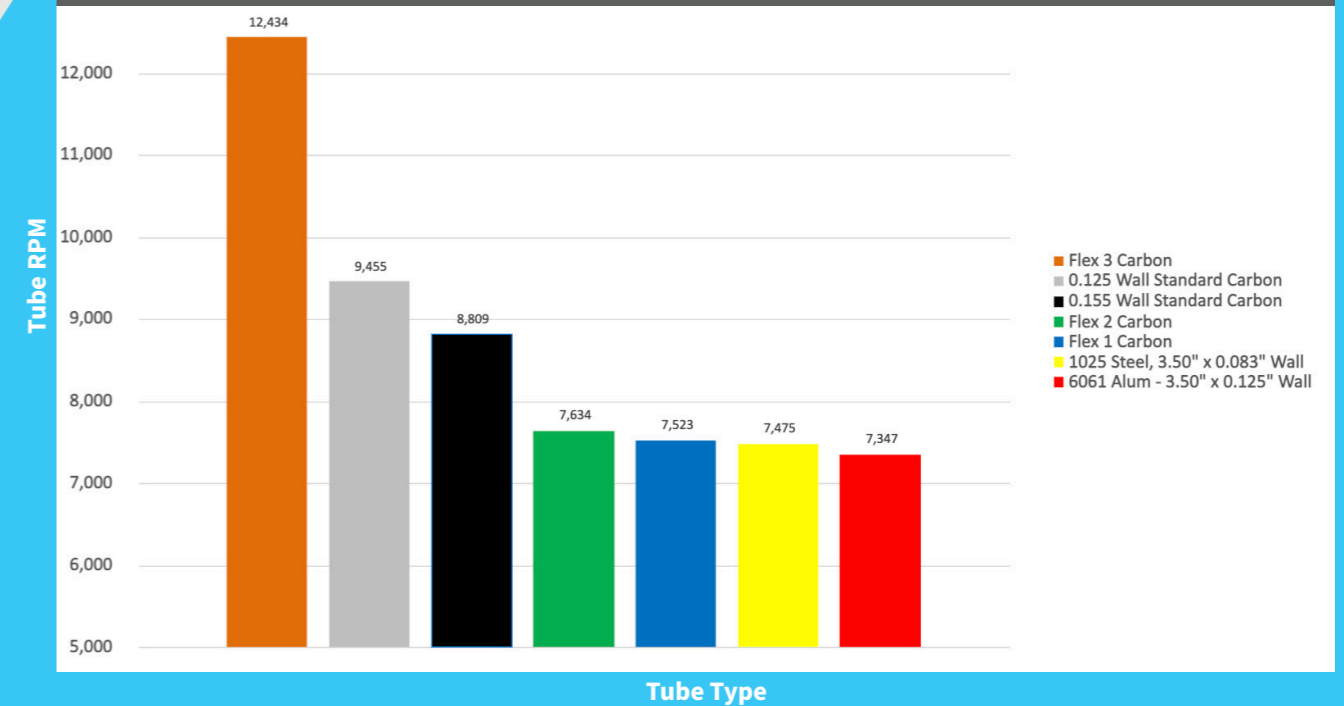
THE COMPOSITE DRIVELINES DIFFERENCE

CARBON FIBER

- Lightest
- Strongest
- Improved NVH characteristics
- Fiber shreds or “brooms” upon failure – safest for occupants and vehicle
- Higher critical speed for 1-piece design or reduced diameter tubing



CRITICAL SPEED OF 55" CENTER TO CENTER DRIVESHAFT TUBE



STRONGER THAN STEEL, LIGHTER THAN ALUMINUM

IMPROVED NVH

DRIVESHAFT ASSEMBLY IN UNDER 30 MINUTES

TUNABLE TORSIONAL STIFFNESS

HIGHER TORQUE CAPACITY

REDUCES ROTATIONAL WEIGHT FOR FASTER LAP TIMES

HIGHER CRITICAL SPEED THAN STEEL OR ALUMINUM

SUPERIOR FATIGUE STRENGTH

2-PIECE CONVERSIONS: INCREASED CRITICAL SPEED, REMOVAL OF CENTER BEARING, AND DECREASED VIBRATION WITH A ONE-PIECE CARBON FIBER DRIVESHAFT

IT'S SAFE - STEEL AND ALUMINUM SHAFTS CAN SEVERELY DAMAGE A VEHICLE. CARBON FIBER SHREDS LIKE A BROOM, PREVENTING VEHICULAR PERSONAL INJURY

A DRIVESHAFT YOU CAN TUNE

Increasing the flex of your driveshaft means there is less potential to damage your transmission and differential. The perfect amount of flex optimizes power delivery to your wheels to reduce spinning and hopping. Every driver's road is different from ideal street racing conditions to dirt track to off-road, our engineered tuned flex tubes are designed with you in mind.

ASSEMBLY IN UNDER 30 MIN
WITH OUR COMPLETE SYSTEM. SEE PAGE 16 TO LEARN MORE.

CARBON FIBER TUBING - STANDARD

PRIVATE LABELING AVAILABLE



.125 WALL THICKNESS

Part Number	Description
2" 125-10800	2" ID Carbon Fiber tube with .125 wall x 108" Standard Flex
2.5" 125-10800	2.5" ID Carbon Fiber tube with .125 wall x 108" Standard Flex
3" 125-10800	3" ID Carbon Fiber tube with .125 wall x 108" Standard Flex
3.5" 125-10800	3.5" ID Carbon Fiber tube with .125 wall x 108" Standard Flex
4" 125-10800	4" ID Carbon Fiber tube with .125 wall x 108" Standard Flex

- STANDARD FLEX IS DESIGNED AS THE GO-TO SOLUTION FOR MOST APPLICATIONS AND WILL COVER A BROAD RANGE OF ROAD CONDITIONS
- OPTIMIZED FOR NORMAL TRACKS AND ROAD RACING VEHICLES OR TWO-PIECE TO ONE-PIECE CONVERSIONS

.155 WALL THICKNESS

Part Number	Description
3" 155-10800	3" ID Carbon Fiber tube with .155 wall x 108" Standard Flex
3.5" 155-10800	3.5" ID Carbon Fiber tube with .155 wall x 108" Standard Flex
4" 155-10800	4" ID Carbon Fiber tube with .155 wall x 108" Standard Flex
5" 155-10800	5" ID Carbon Fiber tube with .155 wall x 108" Standard Flex

- .155" WALL THICKNESS INCREASES STRENGTH AND STIFFNESS FOR DEMANDING APPLICATIONS SUCH AS HELLCATS, GT500 MUSTANGS, CTS-Vs, CT5-V BLACKWINGS, ZL1 CAMAROS, AND APPLICATIONS EXCEEDING 2500 HP

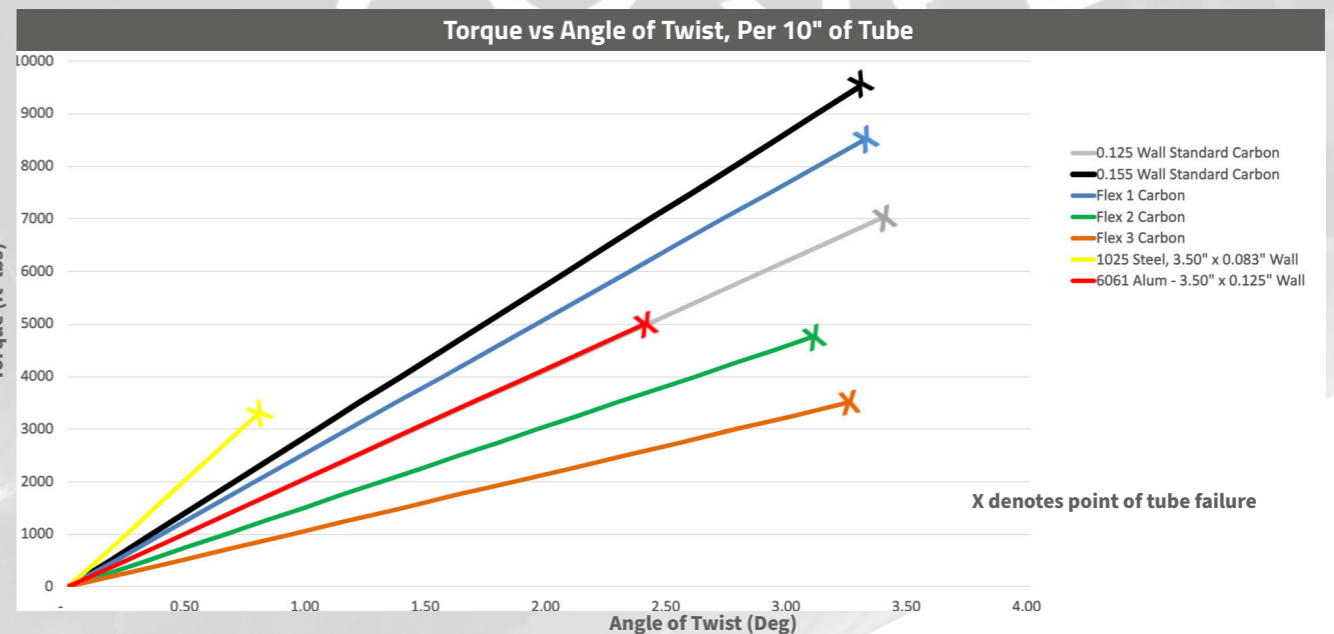
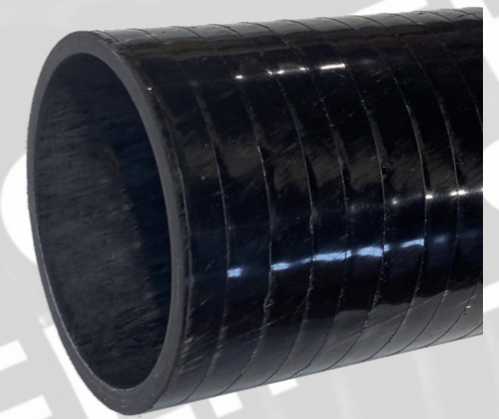
CARBON FIBER TUBING - FLEX TUNED

INCREASED DRIVETRAIN LONGEVITY

FLEX 1 - HIGHEST TORSIONAL STIFFNESS

Part Number	Description
2" 125 Flex 1-10800	2" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 1
2.5" 125 Flex 1-10800	2.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 1
3" 125 Flex 1-10800	3" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 1
3.5" 125 Flex 1-10800	3.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 1

- FLEX 1 IS OUR STIFFEST TUBE WITH THE LEAST AMOUNT OF FLEX ANGLE
- TUNED FOR DRIFT CARS, BURNOUT VEHICLES, OR PERFECTLY PREPPED TRACKS WITH VERY HIGH LEVELS OF GRIP



FLEX 2 - MORE TUBE FLEX THAN STANDARD

Part Number	Description
2" 125 Flex 2-10800	2" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 2
2.5" 125 Flex 2-10800	2.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 2
3" 125 Flex 2-10800	3" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 2
3.5" 125 Flex 2-10800	3.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 2

- FLEX 2 ADDS MORE FLEX ANGLE THAN STANDARD
- TUNED FOR SUBSTANDARD STREET & DIRT TRACK CONDITIONS
- CAN PROTECT POWERTRAINS WHEN OPERATING UNDER HIGH TORQUE LOADS
- ADDED FIBERGLASS INCREASES TOUGHNESS FOR OFFROAD APPLICATIONS

FLEX 3 - LOWEST TORSIONAL STIFFNESS

Part Number	Description
2" 125 Flex 3-10800	2" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 3
2.5" 125 Flex 3-10800	2.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 3
3" 125 Flex 3-10800	3" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 3
3.5" 125 Flex 3-10800	3.5" ID Carbon Fiber tube with .125 wall x 108" Flex Rate 3

- FLEX 3 IS THE MOST FLEX ANGLE. TUNED TO HANDLE DIRT TRACKS, OFF-ROAD RACING, AND POORLY PREPPED LOW TRACTION SURFACES
- INCREASED FLEXIBILITY GIVES THE TIRES THE BEST TRACTION POSSIBLE

THINK OUTSIDE THE TUBE

Carbon fiber driveshafts are for more than just high performance automotive.

As your carbon fiber driveshaft business begins to grow, opportunities will present themselves. Carbon fiber driveshafts are for more than just automotive high performance. Check out these other applications where you can get involved.

MARINE
AGRICULTURE
ATV AND UTV
INDUSTRIAL WATER PUMPS
COOLING TOWERS
+ MORE



PATENTED COMPONENTS

DESIGNED AND DEVELOPED FOR OUR SYSTEM TO BE STRONGER AND BETTER. FORGED 2024 ALUMINUM COMPONENTS ARE HERE.



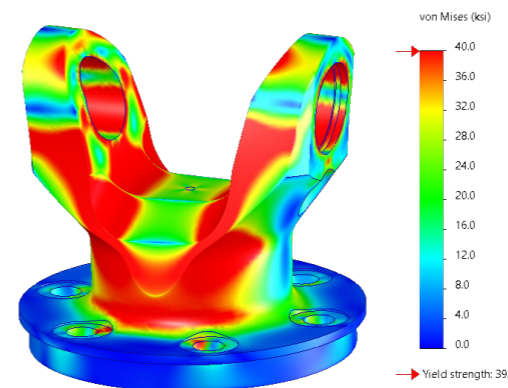
LET'S COMPARE 2024 VS 6061 VS 7075

When designing the new Composite Drivelines bondable ends and flanges, one of the major considerations was material selection. The automotive standard for aluminum drivetrain components is 6061-T651 aluminum. This material is very well known and widely used for a few major reasons including cost, machinability, and weldability.

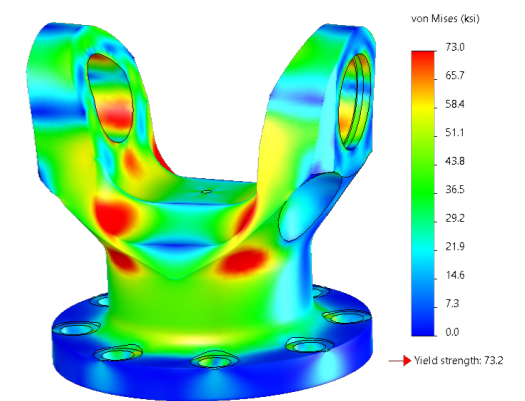
In looking for a more premium product, we conducted a thorough materials analysis and determined 2024-T861 offered several benefits over the traditional 6061. The first benefit is a 60% increase in yield strength (the amount of force required to permanently deflect the material).

Additionally, there is a 43% increase in fatigue life (the increase in life given the same loading conditions). Lastly, a 21% increase in maximum service temperature. These improvements do come at a minor increase in material cost as well as increased machining difficulty, which we have accounted for in our designs.

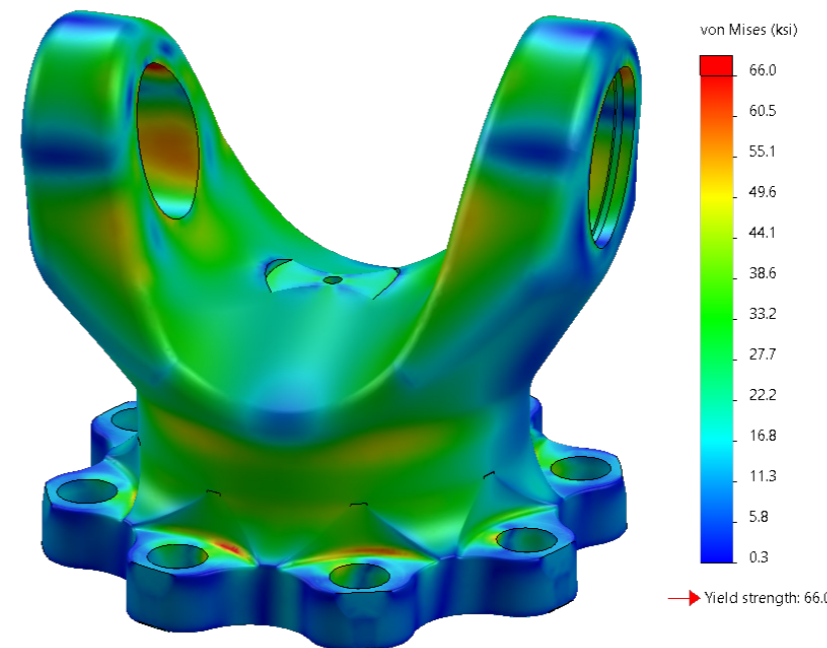
SOMETHING COOL 2024-T651 was used as the structure for the Space Shuttle due to its high strength and resistance to heat and fatigue. The Composite Drivelines components are truly made from a space grade material.



Industry Leading Competition 6061



Industry Leading Competition 7075



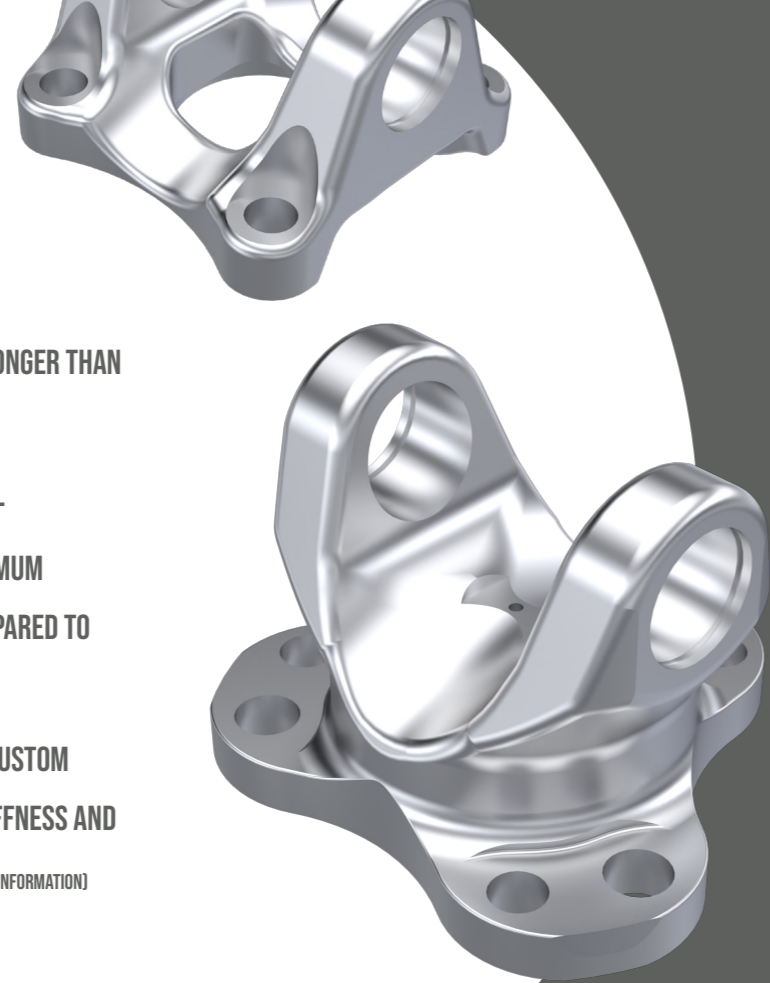
Composite Drivelines 2024

These FEA (Finite Element Analysis) images compare the difference between Composite Drivelines' 2024 adapter flange to common 6061 and 7075 designs. The scale, and therefore coloration of each component, goes from 0 psi to the material's yield point (40ksi for 6061, 73ksi for 7075, 66ksi for 2024).

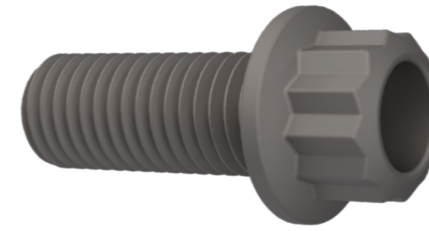
The exact same load of 4k ft*lbs was applied to each part. Red areas are likely to permanently deform and subsequently fail. Blue areas have very low stress and could be removed for weight savings. A significant amount of optimization has been used to strengthen Composite Drivelines parts as much as possible while minimizing their weight.

FLANGES

- FORGED 2024 ALUMINUM 60% STRONGER THAN INDUSTRY 6061
- SIGNIFICANTLY LIGHTER THAN STEEL
- INCREASED FATIGUE LIFE AND MAXIMUM SERVICE TEMPERATURE WHEN COMPARED TO 6061 AND 7075
- UTILIZES COMPOSITE DRIVELINES' CUSTOM BOLTS + STUDS FOR INCREASED STIFFNESS AND WEIGHT REDUCTION (SEE PAGE 13 FOR MORE INFORMATION)



SPECIALIZED STUDS + MORE



Composite Drivelines utilizes custom studs versus traditional bolts.

Using a stud cuts down on the overall height of the flange to U-joint centerline, increases stiffness, and lightens the aluminum component.

The bolt hole size for our CV joint adapter flanges and stud length have been standardized - so you won't have to trim bolts and studs that are too long again.

We also remove the bolt clearance pockets required by our competitors, resulting in stronger components.

2024 ALUMINUM SLIP YOKES KIT

Our slip yoke uses the largest diameter spline we could fit in a 3.00" carbon tube. Doing this maximizes strength and stiffness. Composite Driveline yokes also have a higher (32) tooth count to increase the spline's root diameter, again to increase strength. Also, the spline teeth are nylon coated to provide smooth plunging over the slip yoke's life.



SONNAX PART NUMBER	CD PART NUMBER	DESCRIPTION	BOLT HOLE DIA. (IN)	BOLT CIRCLE (IN)	FLANGE THICKNESS (IN)	FLANGE FACE TO UJ CL (IN)	FLANGE PILOT DIA. (IN)	COMMON APPLICATIONS (MAY FIT OTHER VEHICLES)
T3-2-1579A	F1350-4.25	1350 series Standard Flange 4.25" Bolt Circle Diameter	0.515"	4.25"	0.625"	1.735"	2.000"	Ford Vehicles
T3-2-1859A	F1350-4.75	1350 series Standard Flange 4.75" Bolt Circle Diameter	0.515"	4.75"	0.625"	1.735"	2.950"	Ford & GM Vehicles
ADAPTER FLANGE YOKES								
T35-ALFY-08	AF1350-088	1350 series Adapter Flange 88mm Bolt Circle Diameter	0.422"	3.765"	0.445"	2.994"	4.094"	Scat Pack Challenger, Chrysler 300, Dodge SRT 392 (2013-Later), Dodge Hellcat (2015 - Later)
T35-ALFY-10	AF1350-093	1350 series Adapter Flange 93mm Bolt Circle Diameter	0.422"	3.662"	0.630"	3.174"	4.327"	Automatic Mustangs (2015-2019)
T35-ALFY-07	AF1350-094	1350 series Adapter Flange 94mm Bolt Circle Diameter	0.422"	3.700"	0.445"	2.994"	4.250"	Scat Pack Challenger, Chrysler 300, BMW (210mm w/ 94mm Bolt Circle Dia), TR-6060, Cadillac CTS-V w/ 6L90 (2009-2015), Dodge Hellcat (2015-Later), Dodge SRT 392 (2013-Later)
T35-ALFY-09	AF1350-095	1350 series Adapter Flange 95mm Bolt Circle Diameter	0.422"	3.740"	0.555"	3.104"	4.455"	Mustangs (Automatic 2005-2015) (Manual 2005-2019)
T35-GMFD-01K	AF1350-110	1350 series Adapter Flange 110mm Bolt Circle Diameter	.516/.591"	4.331"	0.445"	2.754"	0.631"	Pontiac GTO (2005-2006). 10L80, 6L80, 6L90, 8L90, TR-6060, TR-3160, TR-6060

PATENTED BOND YOKES

DESIGNED FOR OPTIMAL EPOXY BONDING

Part Number	Description
Y21310	1310 Series, 2" Fitment Bond Yoke- High Angle
Y31350	1350 Series, 3" Fitment Bond Yoke
Y351350	1350 Series, 3.5" Fitment Bond Yoke
Y351480	1480 Series, 3.5" Fitment Bond Yoke
Y41480	1480 Series, 4" Fitment Bond Yoke
Y51550	1550 Series, 5" Fitment Bond Yoke



THE COMPLETE DRIVELINE SOLUTION

THE COMPOSITE DRIVELINES CARBON FIBER SYSTEM IS PRICED COMPETITIVELY IN THE MARKET AND PROVIDES EXCELLENT RETURNS FOR YOUR BUSINESS.



EXAMPLE BUILDS

Application	Adapter Flange	Slip Yoke Kit	Includes	Tubing	Bond Yoke	Adapter Flange
Hellcat	AF1350-088	SY351350	Male, Female, & Boot	3.5 x 0.155	Y351350	AF1350-094
ATS-V	AF1350-110	SY31350	Male, Female, & Boot	3.00 x 0.125	Y31350	AF1350-110
Mustang	F1350-4.25	SY31350	Male, Female, & Boot	3.00 x 0.125	Y31350	AF1350-093

BONDABLE WELD SLEEVES

- 2, 3, 3.5 and 4" 0.083 steel sizes
- Can be used for any 0.083 wall components
- Ultimate versatility: use up your current steel stock

**BEST IN CLASS COMPONENTS IN WEIGHT + STRENGTH,
DEVELOPED WITH A FULL DRIVESHAFT SYSTEM IN MIND**

EQUIPMENT

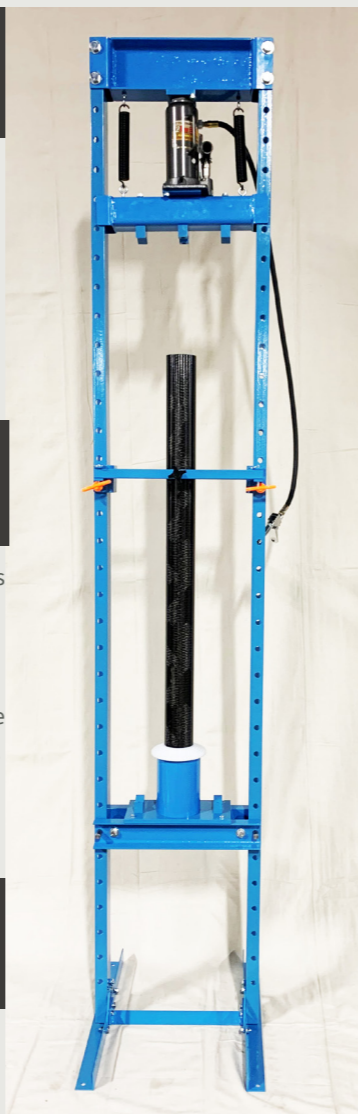
- DESIGNED TO ASSEMBLE A CARBON FIBER DRIVESHAFT IN UNDER 30 MINUTES
- PERFECTLY PHASED/CLOCKED

MODEL 7200 CARBON FIBER DRIVESHAFT PRESS

Perfect Presses Every Time

The D&D Model 7200 press is the only driveshaft press specifically designed to quickly, efficiently, and precisely assemble custom carbon fiber driveshafts. The self phasing u-joint alignment design assures a perfect alignment every time. Easily adjusts to make shafts from 12" to 108".

Part Number: DD7200



NORTON CLIPPER WET SAW FOR CARBON FIBER

The Norton Clipper wet saw with its 14" continuous rim blade will cut up to a 6" OD carbon fiber tube. This wet saw is the perfect tool for cutting carbon fiber tubes to size. No dust or debris. The tube face will be precise and square, and the cut will produce perfect non-frayed ends. This saw is safe, compact, and durable.

Part Number: BBM307



ACETONE DISPENSING CAN

Dispense flammable liquids and solvents safely, without waste or exposure. Made of chemically resistant Ryton® and brass, the pump base is designed to leave less liquid in the bottom before having to refill. Pushing down on the pump assembly fills the upper pan with liquid. Surplus liquid drains safely back into reservoir. The perforated upper pan serves as a flame arrester. Top rim has molded edge protector for smooth, trouble-free moistening.

Part Number: H3683-UL



CLEANING & ASSEMBLY ROLLER SET

Sturdy and durable 6061 Aluminum frame and durlon rollers. Rollers hold carbon fiber tubing securely in place while providing smooth rotation for cleaning and bonding. Constructed of corrosion resistant & coated materials. Blocks can be mounted with central 1/4 inch hole which is counterbored for a socket head cap screw.

Part Number: DD6061

ACCELERATED CURING KIT

Fast 2-Hour Cure Solution

Includes two temperature controllers and two silicon rubber heated tape bands. The tape allows for maximum heat distribution on the carbon and bond yoke surface for fast and efficient direct contact heating.

The ITC-308 Digital Temperature Controller Thermostat, 2-Stage, 1100W, with sensor cures both ends at the same time. Programmable from 150F -250F.

Part Number: ACCF2150



APPLY ONLINE. SCHEDULE TRAINING. RESERVE YOUR STOCK.

We understand the many challenges Driveline Specialists face: finding and training staff, completing customer assemblies on time, maintaining expensive equipment, all while searching for available parts. As a Composite Drivelines' distributor, you have access to our complete system to drive you to success. With tubes, components, equipment, education, and training, we have the solutions to get you started and keep you going.

Our mobile training center is ready to head to your town. Contact us today to schedule training for your team.

