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Reynolds
materials
technology
provides the
competitive
advantage...

Materials matter...

Reynolds expertise in materials technology for critical performance tubular applications has been proven through a long history of success within the cycle, motorcycle, auto-sport, specialised sports equipment, wheelchair, oil and gas, space and specialised engineering industries.

Applying tubular materials technology to cycle frames has brought Reynolds no fewer than 27 Tour de France cycle race victories as well as numerous Moto GP wins and successful auto-sport chassis, sub frame and specialised sporting equipment applications.

Our brands for your application...



953 Mar-aging Stainless Steel
UTS: 1750-2050 MPa,
Density 7.8 gm/cc

Reynolds's premium brand stainless steel alloy. With a superior strength-to-weight ratio, it combines resilience with an extremely low weight. Its high-impact strength and fatigue resistance make it ideal for the ultimate cycle frame or tubular engineering applications.



921 Cold Worked Stainless Steel
UTS: 950-1080 MPa
Density 7.9 gm/cc

This high-strength, austenitic, precision-welded stainless steel is based on the 21-6-9 grade alloy and allows for customisation, as it can be further shaped by builders in their workshops. No heat treatment is needed, and this material can be used for a wide range of applications, including utility, BMX, hybrid, ATB, 29er, XC, and cargo bikes, as well as road or touring forks.



853 Seamless Air Hardening Heat Treated Steel
UTS : 1200-1400 MPa,
Density 7.78 gm/cc

Lightweight with increased strength in the joint areas after welding. 853 is heat treated to give high strength and damage resistance.

Strong, durable and with excellent fatigue properties this is the material of choice for strong riders, BMX and

endurance rides. Racing and touring fork blades are now available, including options for ATB use.

Engineering applications include motorcycle suspension tubes, air jack housings, side impact beams and lightweight stretchers.



725 Heat Treated Chrome-Molybdenum Steel
UTS : 1080-1280 MPa,
Density 7.78 gm/cc

Butted and heat-treated Cr-Mo steel, 725 provides thinner walls and therefore a weight advantage over similar non heat treated steels. 725 can be TIG welded and married with "Reynolds Designer Select" 853 and 631 tubes.



631 Seamless Air Hardening Steel
UTS : 800-900 MPa,
Density 7.78 gm/cc

Utilising the same chemistry as 853, 631 is cold worked and has the advantage of air hardening after welding.

Tough, durable and comfortable, 631 frames are particularly suitable for long distance riding, ATB and BMX.

Racing and touring fork blades are now available.

631 has particular advantages for sports car chassis, suspension units and motorcycle race frames where welded or fillet brazed structures should not require stress relieving in the weld zone. It also offers significantly better yield strength and improved crash deformation behaviour compared to current steel alloys.



531 Manganese-Molybdenum cold worked steel
UTS : 650-850 MPa
Density 7.8gm/cc

A limited edition set of Reynolds 531 tubes are available for brazed bike frame applications to mark the company's 116th year.

531 was first used in the early days of the aircraft industry, for wing spars, struts and engine mountings. It has been specified for sports car sub-frames, racing motorcycles, and even the land speed record vehicle Thrust 2.



525 Cold Worked Chrome-Molybdenum Steel
UTS : 700-850 MPa,
Density 7.78 gm/cc

With similar properties to 531 for cycle frame applications this mandrel butted material has accurate profiles and is available in a wide range of shapes. Lightweight, competitively priced

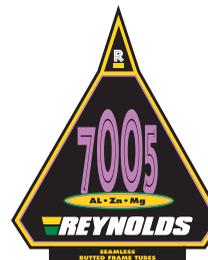
material, 525 is particularly suitable for use within sports car chassis, suspension units, motorcycle race frames and competition wheelchairs as well as performance-critical welded and fillet brazed structures.



520 Cold Worked Chrome-Molybdenum Steel
UTS : 700-900 MPa,
Density 7.78 gm/cc

Similar to Reynolds 525, mandrel butted for lightweight strength, these competitively priced tube sets are manufactured for Reynolds under licence in Taiwan and are subject to

identical quality standards. Applications include cycle frame sets, sports car chassis, suspension units, motorcycle frames and sports wheelchairs.



7005 Aluminium Alloy
UTS : 400 MPa,
Density 2.78 gm/cc

An industry standard 7005 alloy with zinc and magnesium elements to provide strong, light frames. Aging is recommended to T6 condition post welding to achieve optimum properties.



6061 Aluminium Alloy
UTS : 325 MPa, Density 2.70 gm/cc

An industry standard 6061 alloy using silicon and magnesium alloying elements to provide light cost effective structures in the T6 heat-treated condition.

Reynolds 6061 is suitable for hydro-formed shapes due to its high ductility and may also be used in conjunction with butted profiles subject to design parameters.



6-4 Ti Seamless ELI Grade Titanium
UTS : 900-1150 MPa,
Density 4.42 gm/cc

Manufactured from custom made billet, Reynolds is the only company in the world to offer seamless, mandrel butted 6-4 titanium material. The use of ELI (Extra low interstitial gas purity) grade material allows the butting and shaping of tubes to the tight tolerances required for high strength, light weight, durable frames with unmatched fatigue resistance. Made to custom order only.

Note that due to billet availability, Reynolds can offer equivalent certified titanium alloys in some cases.



3-2.5 Ti Seamless Cold Worked Titanium
UTS : 810-960 MPa,
Density 4.48 gm/cc

Using perfected manufacturing processes these mandrel butted tubes meet tighter tolerances on the wall thickness than other commercially available tubes, this provides fabricators with consistent profiles and weights suitable for custom designs. In addition cold working provides enhanced tensile strength allowing lighter tubing to be specified.

