Reynolds Technology Ltd.

Building 21
Shaftmoor Industrial Estate
226 Shaftmoor Lane
Hall Green
Birmingham
England B28 8SP

PLEASE NOTE: This download is an extract from the full version.

Please call us on **0121 777 3853** or email **reytech@reynoldstechnology.biz** to request a copy of the full document to include steel chemistry, process capability and welding guidelines.

TUBE MATERIALS AND PROCESSES.

Version update: 10/10/09

Contents:

The contents of this document are provided for general information and should only used for design and manufacturing after due consideration of the alloy properties required.

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Company Overview / brands

Birmingham-based Reynolds Technology Ltd (RTL) has a long history in the tube making industry. In particular, the Company is world renowned in the bicycle industry, with no fewer than 27 Tour de France champions crossing the finish line atop bicycles built with Reynolds tubing. As part of the TI Group PLC, it supplied “531” tubing to the automotive, motorcycle and wheelchair market.

Now a privately owned business, the company has invested in developing new materials. Reynolds aims to provide innovative, high quality products made from durable advanced materials to the aerospace, automotive, oil and sporting goods sectors.

Materials/processes used

CORE BUSINESS is in METALLIC TUBULAR PRODUCTS using

ALUMINIUM
MAGNESIUM
STEEL
TITANIUM

MANUFACTURING BASE IN THE UK for specialist or custom-made steel and titanium tubing applications. Can include “butted” (variable wall thickness) tubes.

EXTRUSION of aluminium and magnesium profiles, made under license in South Africa. CNC machining, painting and assembly of components, also in South Africa.

HYDROFORMED aluminium (6061/7005), made under license in China, with possible options in titanium and 4130 steel.

OFFSHORE PRODUCTION of tubing for volume markets in mild steel, 4130 seamless and cold-drawn/welded Cr-Mo, 6061 and 7005 grade aluminium, made under license in Taiwan and China.

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Materials/ Reynolds Steel Brands Overview:

Reynolds 953 – maraging stainless steel
Reynolds 853 – heat-treated air-hardening steel
Reynolds 725 – heat-treated Chrome-molybdenum steel
Reynolds 631 – cold-drawn air-hardening steel
Reynolds 525 - cold-drawn chrome-molybdenum steel

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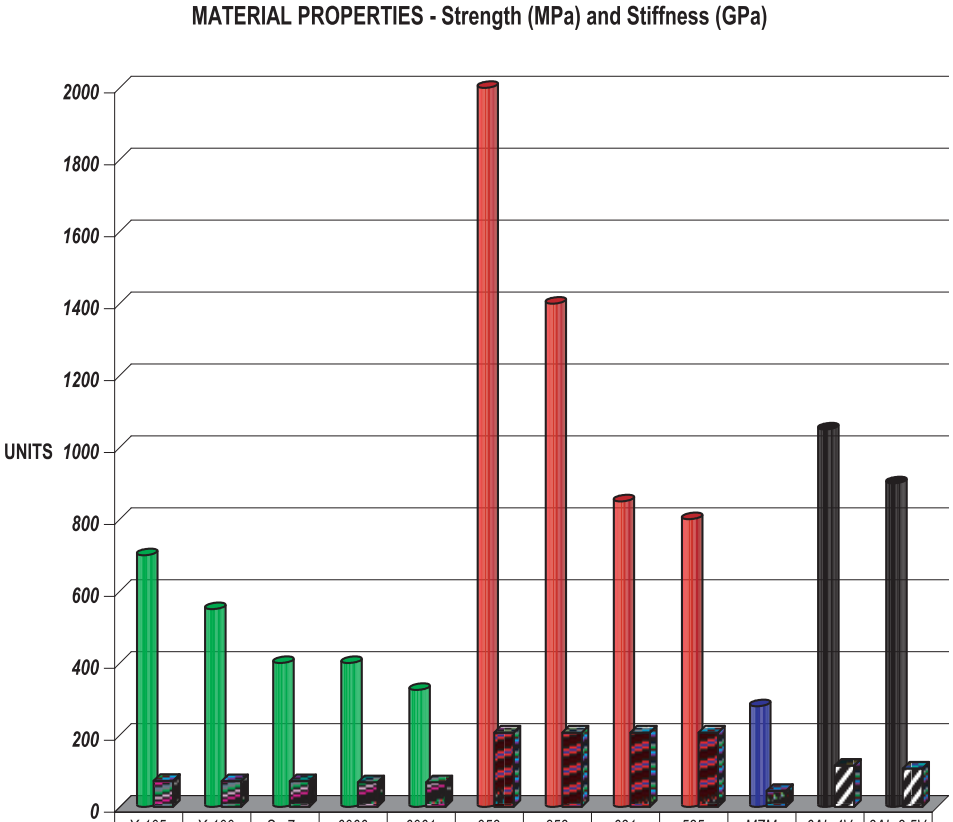
Mechanical Properties – Reynolds Materials

Comparative values for UTS in MPa and Stiffness in GPa for metals used by Reynolds in previous applications to date:



	X-105	X-100	Sc-7x	6066	6061	953	853	631	525	MZM	6AL-4V	3AL-2.5V
STRENGTH	700	550	400	400	325	2000	1400	850	800	280	1050	900
STIFFNESS	73	72	72	69	69	207	207	207	207	45	115	107

N.B: figures are subject to cold-drawing methods and relevant heat-treatment options.

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Mechanical Properties – Reynolds Materials

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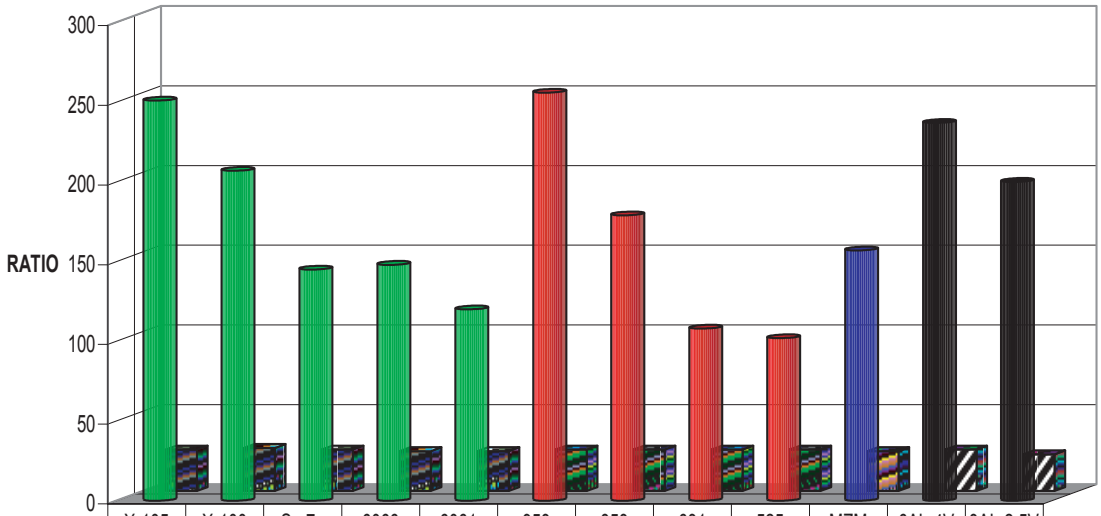
SPECIFIC MATERIAL PROPERTIES - RATIOS
Strength-to-weight
Stiffness-to-weight



	X-105	X-100	Sc-7x	6066	6061	953	853	631	525	MZM	6AL-4V	3AL-2.5V
STRENGTH	251	207	145	148	120	256	179	108	102	157	237	200
STIFFNESS	26	27	26	25	25	26	26	26	26	25	26	23

for MATERIALS shown in chart

N.B: figures are subject to cold-drawing methods and relevant heat-treatment options.