thyssenkrupp
Aerospace Australia

Product Catalogue

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Content

Our Group Mission Statement

We are thyssenkrupp – The Technology & Materials Company.

Competence and diversity, global reach and tradition form the basis of our worldwide market leadership. We create value for customers, employees and shareholders.

We Meet the Challenges of Tomorrow with our Customers.

We are customer-focused. We develop innovative products and services that create sustainable infrastructures and promote efficient use of resources.

We Hold Ourselves to the Highest Standards.

We engage as entrepreneurs, with confidence, a passion to perform and courage, aiming to be best in class. This is based on the dedication and performance of every team member. Employee development is especially important. Employee health and workplace safety have top priority.

We Share Common Values.

We serve the interests of the Group. Our interactions are based on transparency and mutual respect. Integrity, credibility, reliability and consistency define everything we do. Compliance is a must. We are a responsible corporate citizen.

About us

Located in Wetherill Park NSW, thyssenkrupp Aerospace Australia is a wholly owned subsidiary of thyssenkrupp AG, Materials Services Division. We are a global company offering local supply of rolled & extruded aluminium and special steels products for the aerospace, defence and advanced engineering industries throughout Australia and New Zealand.

Our seasoned local team boasts years of expertise in the industries we serve, dedicated to delivering top-notch service and satisfaction to our customers. With Australia's largest inventory of certified materials sourced from renowned mills worldwide, quality is at the heart of our operations. We prioritize getting it "Right The First Time Every Time" because we deeply value our customers and understand that it's crucial to our success.

MANAGEMENT SYSTEM CERTIFICATION
DNV·GL
ISO 9001 · AS9120

With our ISO9001 and AS9120 accreditations our quality management systems underpin our high expectation and reputation.

Welcome to our product and in-house service catalogue! At thyssenkrupp Aerospace Australia, we eagerly await your inquiries and anticipate the opportunity to collaborate with you.

Value-added services

We offer in-house value-added services that complement our product range, these services listed were introduced to provide our customers shorter lead times, improved yield, less waste material and supply close to net shape reducing customer machine time.

Water Jet Cutting
- Fast lead times on quotes & delivered parts
- Bed size: 3.05M x 6.05M
- Cuts up to 10" (254mm)
- Customers can supply free issue materials
- Cut tolerance: -/+0.3mm

Plate Saw Cutting
- Fast accurate cutting service
- Cut tolerance: -0.0mm/+1.5mm
- Cuts up to 10" (254mm)
- Strip cut up to 4.1M in length
- Square and straight cut edge

Band Saw Cutting
- Fast accurate cutting service
- Cut tolerance: -0.0mm/+1.5mm
- Cuts up to Ø450mm
- Rounds, squares & flat bars
- Square and straight cut edge

Guillotine
- Fast accurate cutting service
- Cut tolerance: -0.0mm/+1.0mm
- Cuts up to 4.0mm aluminium
- Bridge – 3.66M
- Square and straight cut edge

Processing Service
- Grain flow requirements
- Hard metal stamping (traceability on parts)
- Hardness testing
- Customer part number marking
- Mill certificates & Certificate of Conformance

Quality
- Materials are sourced from the most reputable mills
- ISO 9001 approved
- AS9120 approved
- Airbus approved
- Eurocopter approved
- All materials have full traceability

Delivery
- Next day delivery service into: NSW, VIC & QLD metro areas
- Regional areas operate daily routes
- Fast and reliable services into SA & WA
- All deliveries & material are traceable
- POD's available on request

Hard to find metals

Sourcing specialist materials has never been quicker & easier.

Our global presence can offer our Australian market a special service by sourcing the hard to find materials throughout our locations world wide. We can readily supply exotic materials from approved suppliers conforming to the highest aerospace, defence and high technology specifications. The range of materials below can be supplied with full material certification and test reports.

Aluminium

2000, 5000, 6000 & 7000 series (full range of stock in Sydney)

Stainless Steels

13-8PH, 15-5PH, 17-4PH, 17-7PH, 304, 316 & 321 - Custom 455 & 465

Super Alloys

Duplex, Molybdenum & Nitronics

Titanium

Grade 2 / 5, 6AL4V, ELI.

High Tensile Steel

4130, 4140 & 4330

Nickel Alloys

Invar, Pernifer, Maraging 350, Monel & Inconel

Properties & Applications

Relative characteristics are rated in decreasing order of merit = A, B, C, D
The tables are indicative and varied results can be excepted.

Rolled products

Alloy	Typical Application	Corrosion Resistance	Machining Resistance	Anodising	Forming	Welding
2024	Aerospace structural areas where stiffness, fatigue performance and good strength are required	C	B	D	D	C
5005	General purpose alloy for architectural & sheet metal	A	D	B	B	A
5052	Marine and sheet metal purpose	A	D	B	B	A
5083	Structural strength plate used in welded pressure vessels, marine & transport vehicles	A	C	C	C	A
6061	Structural alloy where benefits of lightness, specific stiffness & corrosion resistance are required	B	C	B	B	A
6082	Heavy duty structures where good corrosion resistance is needed: Transport, marine	A	C	B	B	A
7010	High strength alloy, designed for applications where strength to weight ratios are important	C	B	D	C	D
7050	Alloy for aerospace & motor racing applications requiring the best combination of strength, stress corrosion cracking resistance	C	B	D	C	D
7075	Aerospace structures & motor racing where a combination of high strength with moderate toughness and corrosion resistance are required	C	B	D	C	D

Rolled products

Alloy	Typical Application	Corrosion Resistance	Machining Resistance	Anodising	Forming	Welding
2011	Commercial machining alloy. Screw machine products	C	B	D	D	C
6026	Free machining alloy with good corrosion resistance, great for anodising. Replacing 6262 grade – lead free	A	D	B	B	A
6060	Most commonly used extrusion alloy. Architectural & general purpose	A	D	B	B	A
6061	Structural alloy with good corrosion resistance & good weldability	A	C	C	C	A
7075	High strength alloy used in structural applications - aircraft, motor sports	B	C	B	B	A

Aluminium – Technical Data

Metallurgy and specifications

After oxygen & silicon, aluminium is the third most common element & makes up approx. 8% of the earths crust. The metal was only discovered in the first half of the 19th century and has been used as an industrial material since the second half of the century. Aluminium is widely used in both every day & high technology applications.

Aluminium is characterised by low weight, very good thermal conductivity, a low melting temperature & is not harmful to humans.

The material is primarily used in transport engineering (manufacturing of aircrafts, locomotives & ships), packaging, building construction, mechanical engineering.

Pure aluminium is soft, so extra strength is achieved by addition of other elements to produce alloys. Further strengthening is possible by two categories, non-heat treatable & heat treatable.

Non-heat treatable alloys

The strength of alloys in this group depends upon the hardening effect of elements such as manganese, silicon, iron and magnesium. Since these alloys are work hardenable, strength levels are controlled by the various degrees of cold working, denoted by the "H" series of tempers. Alloys containing appreciable amounts of magnesium when supplied in strain- hardened tempers are usually given a final elevated temperature treatment called stabilising to ensure stability of properties.

Heat treatable alloys

The strength of alloys in this group is ehanced by the addition of alloying elements such as copper, magnesium, zinc & silicon. These elements show increasing solid solubility in aluminium with increasing temperature, thermal treatments impart pronounced strengthening.

First stage is called solution heat treatment, this is followed by rapid quenching usually in water, which momentarily freezes the structure & renders the alloy very workable for a short time. It is at this stage that some fabricators retain this more workable structure by storing alloys at below freezing temperatures until they are ready to form them. At room or elevated temperatures the alloy are not stable after quenching & precipitation of the constituents from the super saturated solution begins.

After a couple of days at room temperature, termed ageing or room temperature precipitation, the alloy is considerably stronger. Many alloys approach a stable condition at room temperature, but some alloys, particularly those containing magnesium & silicon or magnesium & zinc, continue to age-harden for long periods at room temperature.

By heating for a controlled time at slightly elevated temperatures, further strengthening is possible & properties are stabilised. This process is called artificial ageing or precipitation hardening. By the proper combination of solution heat treatment, quenching, cold working & artificial ageing, the highest strengths are obtained.

Aluminium – Technical Data

Rolled products	2011	2024	5083	6026	6061	7010	7050	7075
Density (g/cm3)	2.82	2.77	2.66	2.72	2.71	2.82	2.82	2.80

Densities of common alloys:
The density of an alloy is determined by its chemical composition, the purer alloys are lighter and those which have a greater content of other elements are heavier.

How alloying elements affect aluminium

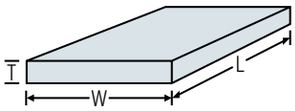
Alloy Element		
1000	None (99% Alum.)	High corrosion resistance, processing equipment & container construction, chemical & food industries, good formability, deep drawing, high brightness through chemical & electrolytic polishing
2000	Copper	Drilling, turning & milling quality, free machining alloys, Aerospace, transport & traffic, highest isotropy of aluminium alloys
3000	Manganese	High corrosion resistance, well suited for deep drawing, hemming quality for roofing, washing machines, special material for insulation sealing
5000	Magnesium	Drawn & stamped parts, furniture and metal construction, processing equipment & container construction, metal construction (anodising quality), traffic signs, cryogenic technology vehicle, ship construction. Highest strength non-hardenable alloy
6000	Magnesium & Silicon	Good corrosion resistance & forgeability, very good polishability, metal construction, interior design, metal frames, textile industry, household items, decoration, screws, TV aerials, food industry & vehicle construction
7000	Zinc	Alloys for load-bearing structures, readily weldable, vehicle construction, transport devices, high strengths for aerospace, mechanical engineering, special alloys for tool, fixture and die making

Calculating the weight of plate (metric)

Please find working example below using 6061 plate:

Plate 6061
- Density: 2.71g/cm3
- Dimension: 50.8 x 1220 x 2500

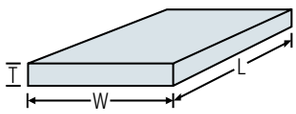
Density	x	*Thickness (T)*	x	*Width (W)*	x	*Length (L)*	=	*Weight (KG)*
2.71	x	50.8	x	1.22	x	2.50	=	419.9 KG



T = Thickness, W = Width, L = Length

Plate

- Value added services for our plate range accurate cut to size, water jet cutting
- Grades: 2024, 5083, 6061, 7075 & 7050
- Full material test certification all products
- Fast & reliable turnaround times from quotation right through to delivery
- Oversize plate available upon request



T = Thickness, W = Width, L = Length

Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	Approx. Plate (kg)
PL-2024-012.7	12.7	1220	3660	2024	T351	157.08
PL-2024-025.4	25.4	1220	3660	2024	T351	314.20
PL-2024-038.1	38.1	1220	3660	2024	T351	471.30
PL-2024-050.8	50.8	1220	3660	2024	T351	628.40
PL-2024-076.2	76.2	1220	3660	2024	T351	942.50
PL-2024-101.6	101.6	1220	3660	2024	T351	1256.70

Other material sizes, alloys, specifications and tempers can be sourced upon request. Dimensional tolerances are relevant to the materials specification. (weight's mentioned are only a guide)

Plate - 5083 Series // AA-5083 - ASTM B928 - DNV 5083 - ASTM B209

Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	Approx. Plate (kg)
PL-5083-006.0	6	1250	2500	5083	H112	49.88
PL-5083-008.0	8	1250	2500	5083	H112	66.50
PL-5083-010.0	10	1250	2500	5083	H112	83.13
PL-5083-012.0	12	1250	2500	5083	H112	99.75
PL-5083-016.0	16	1250	2500	5083	H112	133.00
PL-5083-020.0	20	1250	2500	5083	H112	166.25
PL-5083-025.0	25	1250	2500	5083	H112	207.81
PL-5083-032.0	32	1250	2500	5083	H112	266.00
PL-5083-040.0	40	1250	2500	5083	H112	332.50
PL-5083-045.0	45	1250	2500	5083	H112	374.06
PL-5083-052.0	52	1250	2500	5083	H112	432.25
PL-5083-060.0	60	1250	2500	5083	H112	498.75
PL-5083-065.0	65	1250	2500	5083	H112	540.31
PL-5083-075.0	75	1250	2500	5083	H112	623.44
PL-5083-080.0	80	1250	2500	5083	H112	665.00
PL-5083-100.0	100	1250	2500	5083	H112	831.25
PL-5083-110.0	110	1250	2500	5083	H112	914.38

Plate

Plate - 6061 Series // AMS4027 - ASTM B209						
Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	Approx. Plate (kg)
PL-6061-006.35	6.35	1231.9	3670.3	6061	T651	77.81
PL-6061-007.94	7.94	1231.9	3670.3	6061	T651	97.29
PL-6061-009.53	9.53	1231.9	3670.3	6061	T651	116.77
PL-6061-012.7	12.7	1220	3660	6061	T651	153.68
PL-6061-015.88	15.88	1220	3660	6061	T651	192.16
PL-6061-019.05	19.05	1220	3660	6061	T651	230.52
PL-6061-025.4	25.4	1220	3660	6061	T651	307.36
PL-6061-031.75	31.75	1220	3660	6061	T651	384.20
PL-6061-038.1	38.1	1220	3660	6061	T651	461.04
PL-6061-044.45	44.45	1220	3660	6061	T651	537.88
PL-6061-050.8	50.8	1220	3660	6061	T651	614.72
PL-6061-063.5	63.5	1220	3660	6061	T651	768.39
PL-6061-076.2	76.2	1220	3660	6061	T651	922.07
PL-6061-088.9	88.9	1220	3660	6061	T651	1075.75
PL-6061-101.6	101.6	1220	3660	6061	T651	1229.43
PL-6061-114.3	114.3	1220	3660	6061	T651	1383.11
PL-6061-127.0	127	1220	3660	6061	T651	1536.79
PL-6061-152.4	152.4	1231.9	3670.3	6061	T651	1867.37
PL-6061-177.8	177.8	1220	3660	6061	T651	2151.50
PL-6061-203.2	203.2	1220	3660	6061	T651	2458.86
PL-6061-254.0	254	1220	3660	6061	T651	3073.58

Plate - 7050 Series // AMS 4050, BSS 7055, AMS-STD-2154 (Class A), BMS 7-323 TYPE I

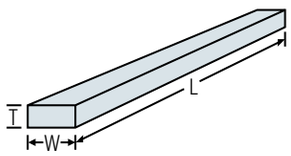
Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	KGS Each
PL-7050-025.4	25.4	1220	3660	7050	T7451	320.97
PL-7050-031.75	31.75	1220	3660	7050	T7451	401.21
PL-7050-038.1	38.1	1220	3660	7050	T7451	481.45
PL-7050-044.45	44.45	1220	3660	7050	T7451	561.69
PL-7050-050.8	50.8	1220	3660	7050	T7451	641.94
PL-7050-057.15	57.15	1220	3660	7050	T7451	722.18
PL-7050-063.5	63.5	1220	3660	7050	T7451	802.42
PL-7050-069.85	69.85	1220	3660	7050	T7451	882.66
PL-7050-076.2	76.2	1220	3660	7050	T7451	962.90
PL-7050-082.55	82.55	1220	3660	7050	T7451	1043.14
PL-7050-088.9	88.9	1220	3660	7050	T7451	1123.39
PL-7050-101.6	101.6	1220	3660	7050	T7451	1283.87
PL-7050-114.3	114.3	1220	3660	7050	T7451	1444.35
PL-7050-0127	127	1220	3660	7050	T7451	1604.84
PL-7050-152.4	152.4	1220	3660	7050	T7451	1925.81

Plate - 7075 Series // AMS-QQA250/12

Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	KGS Each
PL-7075-012.7	12.7	1220	3660	7075	T651	159.35
PL-7075-015.88	15.88	1220	3660	7075	T651	199.25
PL-7075-019.05	19.05	1220	3660	7075	T651	239.02
PL-7075-025.4	25.4	1220	3660	7075	T651	318.70
PL-7075-031.75	31.75	1220	3660	7075	T651	398.37
PL-7075-038.1	38.1	1220	3660	7075	T651	478.05
PL-7075-050.8	50.8	1220	3660	7075	T651	637.40
PL-7075-063.5	63.5	1220	3660	7075	T651	796.75
PL-7075-076.2	76.2	1220	3660	7075	T651	956.10
PL-7075-088.9	88.9	1231.9	3670.3	7075	T651	1129.50
PL-7075-101.6	101.6	1231.9	3670.3	7075	T651	1290.85

Flat Bar

- Value added services for our flat bar range
- Accurate cut to size – band saw
- Fast & reliable turnarounds times from quotation right through to delivery



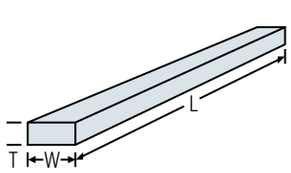
T = Thickness, W = Width, L = Length

Flat Bars - 6061 // AMS-QQA200/8						
Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	Approx. Length (kg)
FL-6061-02550	25.4	50.8	3660	6061	T6511	12.80
FL-6061-025101	25.4	101.6	3660	6061	T6511	25.60
FL-6061-050101	50.8	101.6	3660	6061	T6511	51.19
FL-6061-050127	50.8	127	3660	6061	T6511	63.99
FL-6061-076101	76.2	101.6	3660	6061	T6511	76.79
FL-6061-101114	101.6	114.3	3660	6061	T6511	115.18
FL-6061-101127	101.6	127	3660	6061	T6511	127.98
FL-6061-114127	114.3	127	3660	6061	T6511	143.98
FL-6061-114152	114.3	152.4	3660	6061	T6511	172.78
FL-6061-127152	127	152.4	3660	6061	T6511	191.97
FL-6061-152177	152.4	177.8	3660	6061	T6511	268.76

Other material sizes, alloys, specifications and tempers can be sourced upon request. Dimensional tolerances are relevant to the materials specification. (weight's mentioned are only a guide)

Square Bar

- Value added services for our square bar range
- Accurate cut to size – band saw
- Fast & reliable turnarounds times from quotation right through to delivery



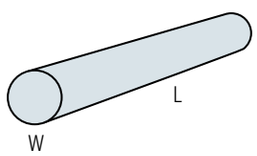
T = Thickness, W = Width, L = Length

Flat Bars - 6061 // AMS-QQA200/8						
Stock Code	Thickness (mm)	Width (mm)	Length (mm)	Alloy	Temper	Approx. Length (kg)
SQ-6061-025.4	25.4	25.4	3660	6061	T6511	6.40
SQ-6061-050.8	50.8	50.8	3660	6061	T6511	25.60
SQ-6061-063.5	63.5	63.5	3660	6061	T6511	39.99
SQ-6061-076.2	76.2	76.2	3660	6061	T6511	57.59
SQ-6061-088.9	88.9	88.9	3660	6061	T6511	78.39
SQ-6061-101.6	101.6	101.6	3660	6061	T6511	102.39
SQ-6061-114.3	114.3	114.3	3660	6061	T6511	129.58
SQ-6061-127	127	127	3660	6061	T6511	159.98
SQ-6061-152.4	152.4	152.4	3660	6061	T6511	230.37

Other material sizes, alloys, specifications and tempers can be sourced upon request. Dimensional tolerances are relevant to the materials specification. (weight's mentioned are only a guide)

Round Bar

- Value added services for our round bar range
- Accurate cut to size – band saws
- Fast & reliable turnarounds times from quotation right through to delivery



W = Width, L = Length

Stock Code	Diameter (mm)	Length (mm)	Alloy	Temper	Approx. Length (kg)
RB-2011-006.0	6	3660	2011	T3	0.29
RB-2011-008.0	8	3660	2011	T3	0.52
RB-2011-010.0	10	3660	2011	T3	0.81
RB-2011-012.0	12	3660	2011	T3	1.17
RB-2011-016.0	16	3660	2011	T3	2.08
RB-2011-020.0	20	3660	2011	T3	3.25
RB-2011-022.22	22.22	3660	2011	T3	4.01
RB-2011-025.4	25.4	3660	2011	T3	5.25
RB-2011-030.0	30	3660	2011	T3	7.32
RB-2011-033.0	33	3660	2011	T3	8.85
RB-2011-036.0	36	3660	2011	T3	10.54
RB-2011-039.0	39	3660	2011	T6	12.37
RB-2011-042.0	42	3660	2011	T6	14.34
RB-2011-045.0	45	3660	2011	T6	16.47
RB-2011-050.0	50	3660	2011	T6	20.33
RB-2011-055.0	55	3660	2011	T6	24.60
RB-2011-060.0	60	3660	2011	T6	29.27
RB-2011-065.0	65	3660	2011	T6	34.35
RB-2011-070.0	70	3660	2011	T6	39.84
RB-2011-075.0	75	3660	2011	T6	45.74
RB-2011-080.0	80	3660	2011	T6	52.04
RB-2011-090.0	90	3660	2011	T6	65.86
RB-2011-100.0	100	3660	2011	T6	81.31
RB-2011-110.0	110	3660	2011	T6	98.38
RB-2011-120.0	120	3660	2011	T6	117.08
RB-2011-130.0	130	3660	2011	T6	137.41
RB-2011-140.0	140	3660	2011	T6	159.37
RB-2011-150.0	150	3660	2011	T6	182.94

Other material sizes, alloys, specifications and tempers can be sourced upon request. Dimensional tolerances are relevant to the materials specification. (weight's mentioned are only a guide)

Round Bar

Round Bar - 6061 // AMS-QQA200/8					
Stock Code	Diameter (mm)	Length (mm)	Alloy	Temper	Approx. Length (kg)
RB-6061-012.7	12.7	3660	6061	T6511	1.25
RB-6061-015.88	15.88	3660	6061	T6511	1.96
RB-6061-019.05	19.05	3660	6061	T6511	2.82
RB-6061-025.4	25.4	3660	6061	T6511	5.00
RB-6061-031.75	31.75	3660	6061	T6511	7.82
RB-6061-038.1	38.1	3660	6061	T6511	11.26
RB-6061-044.45	44.45	3660	6061	T6511	15.33
RB-6061-050.8	50.8	3660	6061	T6511	20.02
RB-6061-063.5	63.5	3660	6061	T6511	31.28
RB-6061-076.2	76.2	3660	6061	T6511	45.04
RB-6061-088.9	88.9	3660	6061	T6511	61.31
RB-6061-101.6	101.6	3660	6061	T6511	80.08
RB-6061-110.0	110	3660	6061	T6511	93.86
RB-6061-114.3	114.3	3660	6061	T6511	101.35
RB-6061-120.65	120.65	3660	6061	T6511	112.92
RB-6061-127.0	127	3660	6061	T6511	125.64
RB-6061-130.0	130	3660	6061	T6511	131.65
RB-6061-139.7	139.7	3660	6061	T6511	151.39
RB-6061-152.4	152.4	3660	6061	T6511	180.17
RB-6061-165.1	165.1	3660	6061	T6511	211.45
RB-6061-177.8	177.8	3660	6061	T6511	245.23
RB-6061-184.15	184.15	3660	6061	T6511	264.17
RB-6061-203.2	203.2	3660	6061	T6511	320.30
RB-6061-215.9	215.9	3660	6061	T6511	361.59
RB-6061-234.95	234.95	3660	6061	T6	428.22
RB-6061-254.0	254	3660	6061	T6	500.47
RB-6061-279.4	279.4	2438.4	6061	T6	403.45
RB-6061-304.8	304.8	2133.6	6061	T6	420.12
RB-6061-330.2	330.2	3660	6061	T6	845.80
RB-6061-355.6	355.6	3660	6061	T6	980.93
RB-6061-381.0	381	3660	6061	T6	1126.07
RB-6061-400.0	400	3660	6061	T6	1241.18
RB-6061-450.0	450	3000	6061	T6	1287.60

Round Bar

Round Bar - 7075 // AMS-QQA200/11					
Stock Code	Diameter (mm)	Length (mm)	Alloy	Temper	Approx. Length (kg)
RB-7075-025.4	25.4	3660	7075	T6511	5.21
RB-7075-31.75	31.75	3660	7075	T6511	8.14
RB-7075-038.1	38.1	3660	7075	T6511	11.72
RB-7075-050.8	50.8	3660	7075	T6511	20.83
RB-7075-063.5	63.5	3660	7075	T6511	32.55
RB-7075-076.2	76.2	3660	7075	T6511	46.88
RB-7075-088.9	88.9	3660	7075	T6511	63.81
RB-7075-101.6	101.6	3660	7075	T6511	83.34
RB-7075-114.3	114.3	3660	7075	T6511	105.47
RB-7075-127	127	3660	7075	T6511	130.22
RB-7075-152.4	152.4	3000	7075	T6511	153.70
RB-7075-177.8	177.8	2000	7075	T6	139.47
RB-7075-203.2	203.2	1550	7075	T6	141.17

Notes: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