



ALUMILL TECH GULF LLC

EXPERTISE - OUR STRENGTH



ELITE
GROUP OF COMPANIES

A member of Elite Group of Companies

Aluminium Coils and Sheets. Continuous casting

The Hallmark of Quality

Alumill Tech Gulf LLC is one of the foremost industrial leaders in top quality aluminium flat rolled products, colour coated coils and sheets. The factory is one of the largest in all aluminium industry in the Middle East and currently the only producer of continuous casting in the United Arab Emirates.

The Company manufacture and supply a wide range of aluminium coils & sheets for architectural & non-architectural applications, interior & exterior use to cater sectors such as construction, roofing & cladding, transportation, air conditioning & insulation and several other mechanical, engineering and industrial purposes.

We're proud to boast a state-of-the-art line production with complex machineries, a fully equipped lab for an end-to-end testing solutions of materials. Alumill Tech Gulf is integrated with the Cast House for a continuous production and the Mill Rolling process of coils directly from the caster route, based on the advanced technology of Italian & European brand machineries such as Prezezzi SpA (Italy).



Top Notch Production Facility

Alumill Tech Gulf manufacturing plant operates out of a wide-spread campus of over 55,000 square meters in the industrial area of Ras Al Khaimah (U.A.E.). The below tables shows the present-day production:

HOT CASTING	Capacity MT/Year	Alloys	Temper	Thickness range (mm)	Width range (mm)	Standards
Twin Roll Casting Line no.2	25.000	1XXX, 3XXX 5XXX, 8XXX	F	6.0 – 7.0	800 – 1300	BS EN 485-4
Melting & Holding Furnaces Line no.2	50.000	1XXX, 3XXX 5XXX, 8XXX	-	-	-	ASTM B209M BS EN 573-3 BS EN 485-2

COLD ROLLING MILL	Capacity MT/Year	Alloys	Temper	Thickness range (mm)	Width range (mm)	Length range (mm)	Coils ID & OD (mm)
Cold Rolled Coils	25.000	1XXX, 3XXX 5XXX, 8XXX	F – 0 H12/28	0.25 – 3.00	150 – 1260	Cut to Length	508 1500
Cold Rolled Sheets	25.000	1XXX, 3XXX 5XXX, 8XXX	F H12/28	0.50 – 3.00	500 – 1260	Cut to Length or standard range 1000 – 4000	
Stucco Embossed Coils & Sheets	-	1XXX, 3XXX 5XXX, 8XXX	F H12/28	0.3 – 1.20	500 – 1260	Cut to Length or standard sheets 1000 – 4000	508 1200

*For narrow width 150 - 640 mm, thickness range from 0.5 - 1 mm. Thickness more than 3 mm is non-standard.

**For narrow width < 800 mm, max od 1100 mm.

COILS COATING	Capacity MT/Year	Alloys	Temper	Resin	Coating Thickness (µm)	Thickness range (mm)	Width range (mm)	Length range (mm)	Coils ID – OD (mm)
Line no.1	18.000	1XXX, 3XXX 5XXX, 8XXX	H46	PE PVDF	5 + 20 top 5-7 bottom TCT = BMT + 30	0.35 – 1.2	150 - 1260	Cut to Length or standard sheets 1000 – 4000	508 1500

Twin casting lines

Cold Rolling Mill

Coating Line

The Production Process

Melting & Holding Furnace

Pure aluminium ingots are melted in the furnace reaching 1200 C° and alloyed with other elements by means of master alloys such as iron, silicon, manganese and magnesium.

The material is analysed and adjusted to ensure that the correct composition is achieved. The alloy is created and transferred to the holding furnace for direct casting.

Cast House for Continuous Casting

In the Cast House the hot metal is continuously casted to shape the coil form. Temperature drops around 700 C° meanwhile process of degassing and filtration of the metal takes place.

Thereafter application of graphite adds protection to the composition just before the rolling

Subsequently the hot metal is solidified in the shape of strips, in coil form. It drops to a temperature of 300 C° and trimmed in the caster machine with on line edge milling for the next multi-stage rolling mill.



Melting & Holding Furnace



Casting line detail



Continuous Coil casting

Cold Rolling Mill

After appropriate cooling and spool insertion, the cold rolled coils are processed in the mill rolling to reach the thickness as per customer's specific requirement.

The reversible rolling mill is a state-of-the-art machinery supplied by Prezezzi SpA (Italy) and equipped with automatic gauge measuring unit on each side to have a precise control on thicknesses and minimum tolerances.

Further treatment in the annealing furnace is processed to achieve the required temper-strength.

Tension Levelling and Cut to Length Line

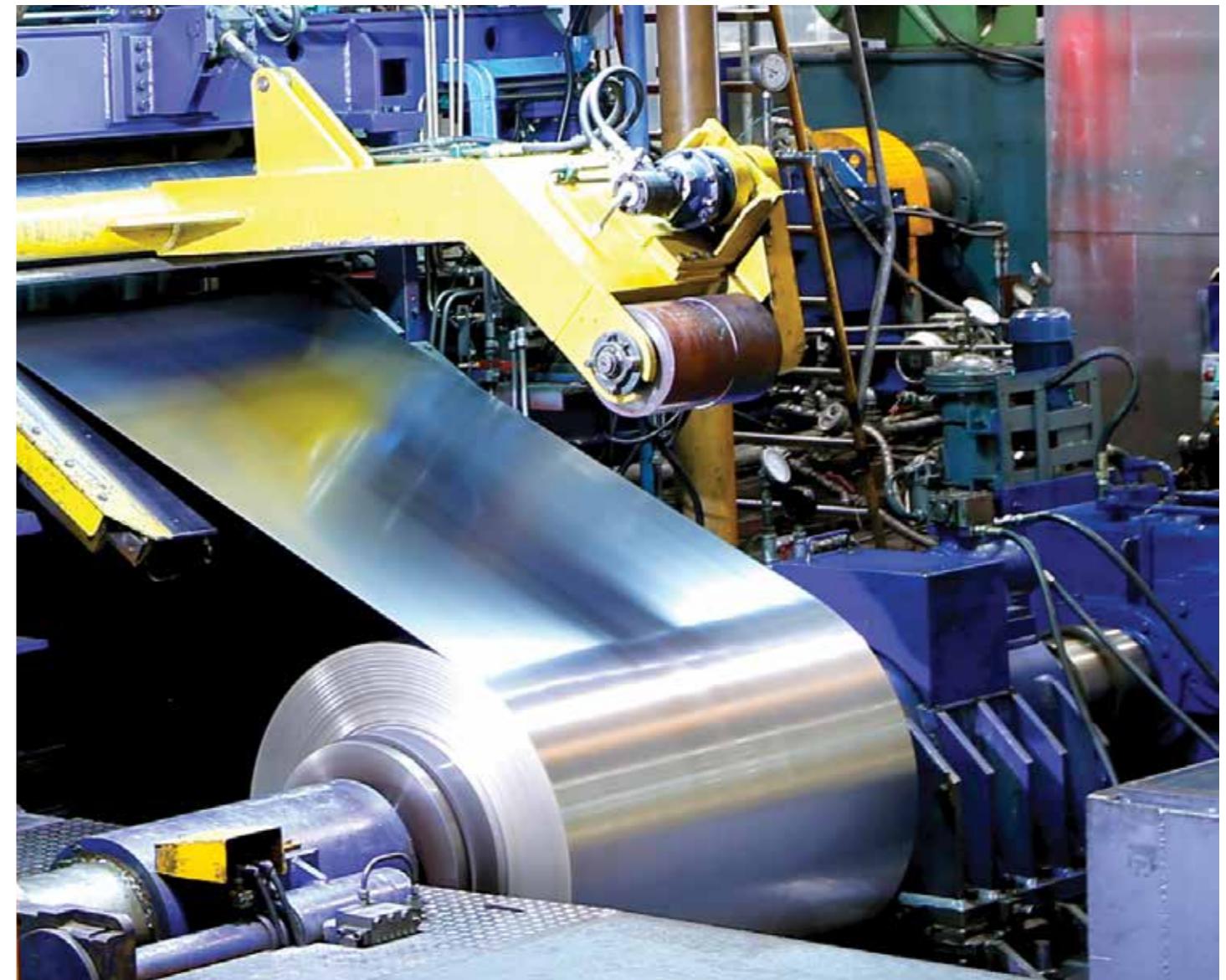
The tension levelling line aim to test and improve the flatness of the material prior to coating or cut to length for final output of coils and sheets. Successively the Cut to length line ensure the required size for the sheets.

Slitting Line

Production completion is achieved through the slitting line for side trimmings to ensure that coils are cut as per exact required size in mill finish or coated finish.

Embossing Line

Upon request Alumill Tech can process an additional step to emboss the aluminium surface and offer a further product very common in the market such as stucco sheets and coils.



Surface Coating Line

The coil coating process is a high-volume operation that produces a perfect finish based on a liquid application of the common resins such as Polyester (PE) and Polyvinylidene fluoride (PVDF).

Liquid coating is well known to have a higher performance for gloss, resistance and uniformity of area coverage.

The aluminium substrate gets degreased and chemically pre-treated. Application of primer coating and top coating takes place along with ancillary treatments. The typical paint system requirements taken into consideration are formability, scratch-resistance, appearance and weather ability.

LRV (light Reflective Value) and SRI (Solar Reflective Index) are top coating colours tested by DCL.

Main steps of the process are:

- Uncoiling
- Chemical Pre-treatment
- Drying
- Primer coating
- Top coating
- Curing oven
- Side trimming
- Recoiling
- Roll forming
- Packing



Quality Management

As per ISO 9001:2008 certification, Alumill Tech apply a stringent quality management to run efficiently the internal procedures and so to ensure to its clients the product value. The Company is under process to update its level to the new ISO 9001:2015 quality certification.

Our core competencies include an in-house R&D facility with technologically advanced machinery. We conduct stringent testing at every stage of production in order to maintain consistency in the quality of products that we manufacture at Alumill.

The standard checking steps for Casted and Mill Finish Coils are the following:

1. Chemical Composition
2. Ultimate tensile strength
3. Bend test
4. Flatness
5. Visual surface inspection

While for Coated coils the following checks are done to ensure the quality output:

1. Impact test
2. Bend test
3. Cupping test
4. Cross hatch test
5. Visual matching of colour
6. Coating Thickness
7. MEK test
8. Pencil Hardness test

Comprehensive testing facilities also include the following:

- Optical Emission Spectrometer for chemical composition
- Microscope with image analyser for grain structure and texture
- Universal testing machine for tensile strength and elongation measurement
- Rockwell & Brinell hardness testing machine
- Digital Micro Ohm meter, Double Kevin Bridge & Technology (AD current) for conductivity measurement
- Ericsson Cupping Machine
- Inductive Couple Plasma (ICP) for testing impurities in PPM levels
- Chemical Lab

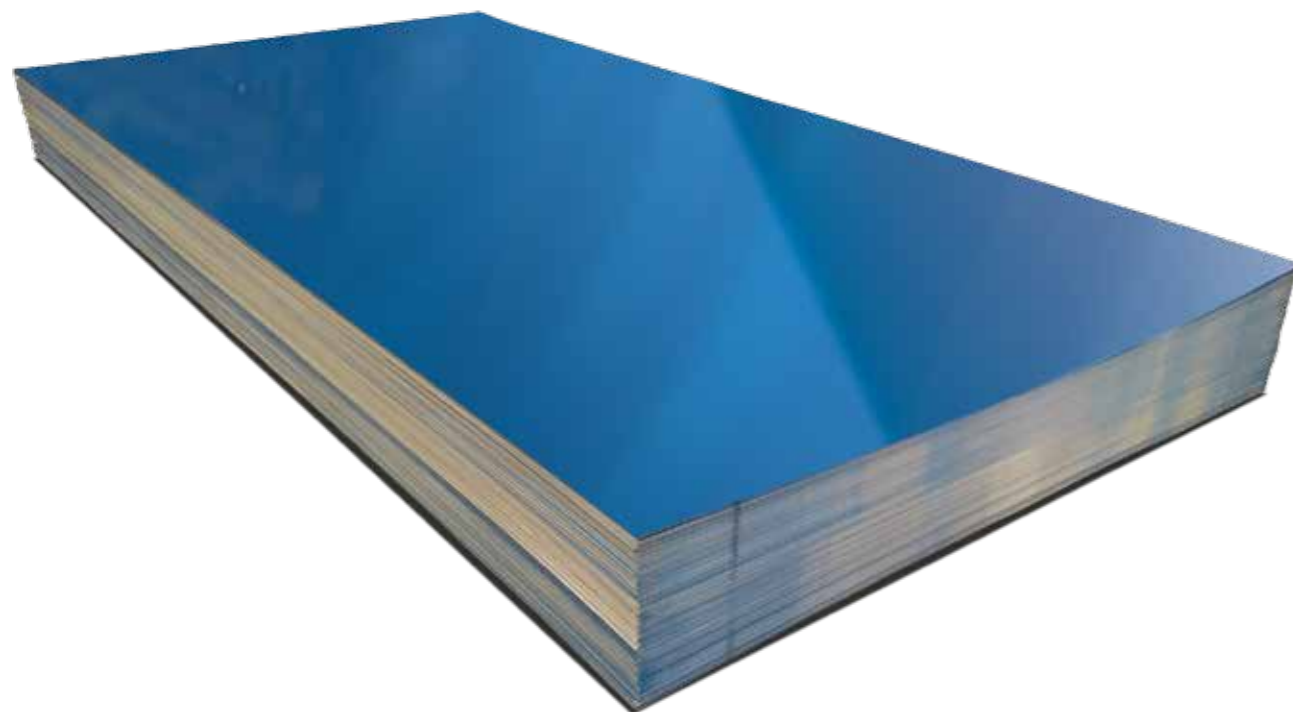


*Once certificates are expired, will be available the renewed one

Product Specifications

- A. Alloy Offered: AA 1XXX, AA 3XXX, AA 5XXX, AA 8XXX
- B. Temper Offered: O, H12, H14, H16, H18, H26, H46
- C. Chemical Composition:
The material chemical composition is checked with spectrometer and complies to ASTM B 209M-14 STANDARDS and BS EN STANDARDS.
- D. Mechanical Composition:
The material mechanical composition is checked with tensile test machine and complies to ASTM B 209M-14 STANDARDS and BS EN STANDARDS.
- E. Applicable Standards:
For MILL FINISH : ASTM B-209M-14 and BSEN
For COATED SHEET : ECCA/ASTM

DESCRIPTION	STANDARD
DFT TEST	(PRIMER+TOPCOAT/BACKCOAT) 5-6+18-20µ/5-8µ
IMPACT TEST	40/50 or less
BEND TEST	0T - 2T
CUPPING TEST	Min. 5.0mm
CROSS HATCH TEST	100/100
PENCIL HARDNESS TEST	2H
MEK TEST	>100 Double Rubs
COLOUR MATCHING(ΔE)	<1
GLOSS @60	30 + / - 5



General Information

Advantages of aluminium

- Strength: Aluminium alloys usually have tensile strengths of between 70 and 700 MPa. Unlike most steel and other metals, aluminium becomes strong at low temperatures. Casted aluminium products possess high strength and low weight.
- Lightweight: Aluminium is about 1/3 the weight of iron, steel, copper or brass, making aluminium extrusions easier to handle and inexpensive to ship.
- Resilient: Aluminium is a strong and flexible metal. Moreover have the ability to resume both shape and size which is good when flexible strength is required. Aluminium can flex under loads or recoil from the shock of impact. Hence can be used in automotive crash management systems.
- Corrosion resistant: Aluminium coils & sheets do not corrode and the aluminium surface is protected by its own naturally occurring oxide film that could be enhanced by anodizing or other finishing processes.
- Excellent thermal conductors: Aluminium is an excellent conductor of heat and electricity. Making aluminium an ideal material for applications that requiring heat exchangers. Aluminium coils are used to optimize heat dissipation and works as insulation mass in residential buildings.
- Non-sparking: Aluminium doesn't emit sparks. So it is ideal for applications involving explosive materials.
- Non-magnetic: Aluminium does not acquire a magnetic charge.
- Non-combustible & Non-toxic: Aluminium is fire-resistant and even at very high temperatures does not produce toxic fumes.
- Reflective: Aluminium is a good reflector of both visible light and radiated heat.
- Workability: Aluminium facilitates easy jointing features and fabrication that can be incorporated into the design and engineering fields.
- Recyclable: Aluminium is an environment friendly and sustainable metal. It is 100% recyclable and retains all the properties of aluminium.

Alloys & Tempers

Aluminium alloys are the ones in which aluminium (Al) is the predominant metal and other alloying elements are copper, magnesium, manganese, silicon, iron, nickel and zinc that are usually added to aluminium in amounts ranging from 0,05% to 7.0%.

Aluminum extrusion is made in a wide range of alloys and temper and selection is made to meet different needs and requirements in terms of strength, weldability, type of fabrication, forming characteristic, corrosion resistance for the best end use.

Principal elements in alloy	Series
Aluminium 99%	1xxx
Copper	2xxx
Manganese	3xxx
Silicon	4xxx
Magnesium	5xxx
Magnesium & Silicon	6xxx
Zinc	7xxx
Tin	8xxx

All aluminium alloys are also classified as either heat treatable or no-heat treatable. Heat treatable alloys attain their maximum strength through controlled heat treatment.

The temper designation is as follow:

- F. As extruded.....No special thermal control or strain hardening
- O. Annealed.....Thermally treated to obtain the lowest strength temper
- H. Strain hardened.....Cold working used to increase strength and hardness
- T. Thermally treated.....Heat treatment to produce stable tempers



Contact us.

Professionals of Alumill work in close association with clients to understand their specific requirements, pay attention to details, offer valuable suggestions and then deliver premium coils and sheets that are on par with international standards of quality.

Our advanced manufacturing unit together with excellence in service at all levels create the strong foundation upon which Alumill Tech Gulf is built. Our team of industry experts and their passion to innovate are the driving force behind the customer satisfaction.

For product enquiries or quotes, get in touch with us. Our customer support team will furnish the relevant information at the earliest.

Packing

- Aluminium coils export standard sea worthy wooden pallet eye to sky (Vertical Type)
- Aluminium coils export standard sea worthy wooden pallet eye to wall (Horizontal Type)
- Aluminium sheets export standard sea worthy wooden pallet with interleaving paper in between





Coil Stock



ELITE EXTRUSION LLC



NATIONAL ALUMINIUM EXTRUSION LLC



AL HAMAD INDUSTRIAL CO. LLC



ALUMILL TECH GULF LLC



THERMOSET



GLOBAL PIONEER
ALUMINIUM INDUSTRIES LLC



JORDAN
ALUMINIUM EXTRUSION



UNITED POWDER COATING FZC

GLOBAL DIES

Empowering Aluminium



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GULF LLC**

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Alumill Tech Gulf LLC

P. O. BOX: 86025, Ras Al Khaimah - UAE.

Tel: +971 7 258 9099 Fax: +971 7 258 9190

Email: info@alumill.ae

www.elitegroupuae.com