

## 1- Foreword



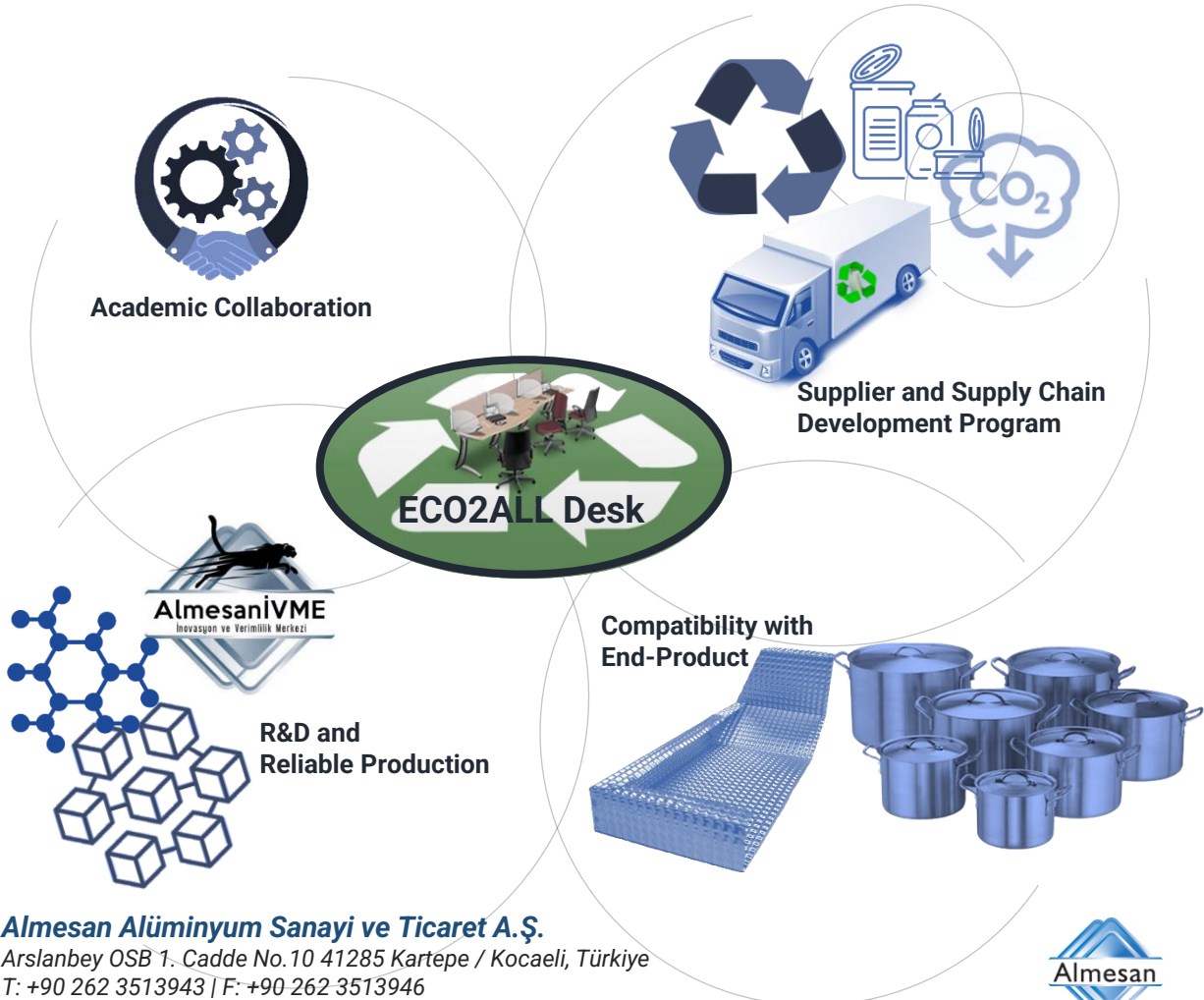
ECO2ALL is a green alloy series developed by the environmental care approach of Almesan Alüminyum. The project had been started to meet the requirements of kitchenware industries by using secondary aluminium under the same conditions. The ECO2ALL project has been enlarged to other sectors like automotive by the successful achievements. As of today, it consists new type, recycled and lower-carboned alloys for the production of kitchenware equipments. the plates and sheets to be used for automotive parts.

As the main idea is to use recycling-friendly allowable aluminium alloys from the post-consumer scraps, this situation, ofcourse, does not give the flexibility to achieve superior mechanical properties in common well-known processes. Most of the aluminium scraps have similar qualifications, due to the urban wastes like cans, storage containers etc. create the main aluminium recycling and regaining sources.

There are two ways to recycle and regain these type of materials: First way is to convert them by adding to purer aluminium melting parties and to make them minor part of the bulky alloys, or, **the second and most environmental-friendly way** is to reuse them as major recycled part of the alloy by adjusting appropriate conditions including casting, annealing and forming.

ECO2ALL Series are the result of the second way for a reliable and healthier environment with lower carbon footprint.

ECO2ALL Ecologic & Economic Alloys are developed as a result of Green Alloy Project by leadership of Almesan Alüminyum together with project partnerships including academic collaboration, supplier and supply chain development program, R&D and reliable production, compatibility with end-product.



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## 2- Product Range and Appearance Properties



<b>Thickness</b> mm 1,0 – 8,0	<b>Disc Diameter</b> mm 150-670
<b>Thickness</b> mm 1,0 – 8,0	<b>Roll, Strip Width</b> mm 100 - 1600

**Upon request, other thicknesses, diameters and widths are available.** ECO2ALL alloys are mainly designed for kitchenwares. As the ability of deep drawing is the prior parameter of the design criteria, ECO2ALL products can also be used for other applications like architecture and construction, traffic signs and several purposes of general use. **Discs** are the basic design geometry of ECO2ALL and ofcourse **rolls, squares, plates** and **strips** are available accordance with customer demands. Almesan Alüminyum is also capable to supply **coated discs**.

Surface properties of the products are **mill-finish** and can be supplied as **smoothly degreased** in case of extra demands.

## 3- Chemical Composition

	<b>Si</b>	<b>Fe</b>	<b>Cu</b>	<b>Mn</b>	<b>Mg</b>	<b>Cr</b>	<b>Zn</b>	<b>Ti</b>	<b>Al</b>
<b>Min.</b>	0,10	0,15	0,02	0,10	0,15	-	-	-	
<b>Max.</b>	0,60	0,50	0,20	0,75	0,85	0,05	0,10	0,10	Remainder

## 4- Mechanical Properties

<b>Annealing</b> Temper H0/H111	<b>Yield Strength</b> R <sub>s</sub> (MPa) >50	<b>Tensile Strength</b> R <sub>m</sub> (MPa) 80 – 145	<b>Elongation</b> A50% >15
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## 5- Compatibility with End-Products



ECO2ALL products are converted to kitchenwares (pots and pans), coated with PTFE (inner surface) and silicon base paint (outer surface). Kitchenwares produced with ECO2ALL products are long-termly tested to simulate the extreme conditions including surface abrasion tests, several types of cooking tests (egg, tomato paste etc.), sticking and bounding tests.

For automotive industry, Almesan Alüminyum is a Tier 3 certified supplier according to IATF 16949 and follows all necessary procedures very strictly. Almesan Alüminyum produces the plates and rolls which can be converted to heat shield and other shapable parts. In automotive industry applications, Almesan

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Alüminyum is fully adapted directly / indirectly Tier 2 / 1 requirements. Based on the results of performance tests of the relevant parts produced by Almesan semi-products, Almesan Alüminyum has got the approval from Tier 2 and 1.

At the end of the tests for kitchenware and automotive, ECO2ALL products have been approved for the compatibility to end products.

## 6- Carbon Footprints & Recycling

While calculating carbon footprints of ECO2ALL following topics are considered:

- End-of-life aluminium cans, storage containers and kitchenware (pot, pan etc.) are defined as **“End-User Sourced / Post-consumer Goods”**
- Output scraps, machining shavings taken from several industrial facilities which cannot be used for another purpose are considered as **“Industrial Waste Sourced / Pre-consumer Goods”**.
- In-factory process scraps are not included to ECO2ALL alloys and these type of scraps **are not defined** post- or pre-consumer scraps, ofcourse not identified as end-of-life.
- Based on the general principles about end-of-life materials, **embedded carbon footprint** derived by post-and pre-consumer scrap is taken as **“zero”**.

Carbon footprint calculations also include:

- Transportation of the collected end-of-life scraps from scrap collecting fields to recycling party
- Smelting the scraps and producing of recycled ingots at the facility of recycling party
- Transportation of ingots from recycling party to Almesan Alüminyum
- All operations starting casting house to delivery department inside of Almesan Alüminyum with **Scope I and II**.
- Average transportation from Almesan Alüminyum to Buyers (truck + ship)

## 7- Specific Carbon Footprint & Recycling Ratio

Based on the calculation of carbon footprints mentioned at Article.6;

**One Tone Disc and Flat Product Made of ECO2ALL** emits between **0,85-1,2 ton CO<sub>2</sub>-eq** as specific carbon footprint with **100% Recycled Aluminium** from post- and pre-consumer goods by **C2C Approach**. The specific number can vary depending on the special customer demands and transportation distance.

For each party to be delivered from Almesan Alüminyum, a custom-made **Carbon Foot Print and Recycling Report** is prepared including specific carbon foot print value of relevant party and products as CO<sub>2</sub>/ton and also recycling ratio of the relevant party.

## 8- References

This Declaration of Conformity is prepared based on **“ISO 14021:2016 Environmental labels and declarations: Self-declared environmental claims (Type II environmental labelling)”**



**Note:** This document has been issued in the date of **11<sup>th</sup> of July 2024**. All informations given are specifically related with product ranges mentioned. In case of any change of product range and other conditions, Almesan Alüminyum will do declaration with technical remarks and keeps the right for revision.