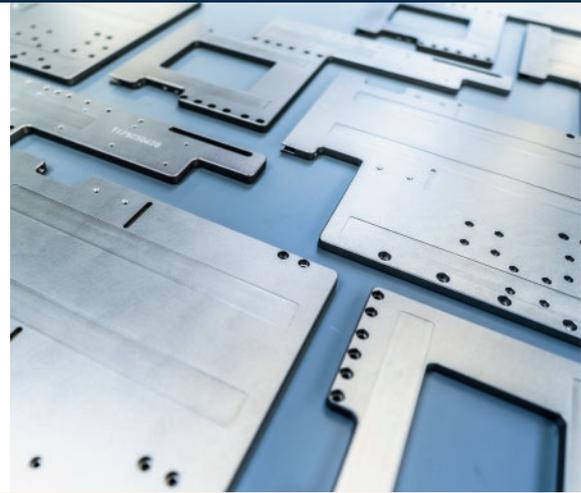


## OX-W Hard White Anodizing

OX-W is a special hard anodizing treatment of aluminium in conformity with MIL-A-8625 Type III, ISO 10074 and UNI 7796 standards. Compared to traditional hard anodizing treatment, the OX-W treatment has been developed to increase hard anodizing characteristics and obtain a more compact and uniform aluminium oxide layer, with less roughness and greater corrosion resistance.



### BEST CORROSION RESISTANCE

Improved corrosion resistance compared to OX-HS hard anodizing. Can withstand 1.000 hours of salt spray without corrosion on some alloys.

### SEALING

The “hot sealing”, carried out in hot water without the use of heavy metals, allows to increase the resistance to corrosion and improve the resistance to stains and discolorations.

### COMPACT AND SMOOTH LAYER

The OX-W treatment creates a more compact and uniform layer of aluminium oxides with less roughness compared to traditional hard anodizing treatment.

### LIGHT COLOUR

The OX-W treatment has a light grey colour with shades that depend on the treated aluminium alloy.

### OX-WN BLACK COLOUR VARIANT

The OX-W treatment can be pigmented deep black, thereby making the colour uniform on all aluminium alloys.

### OX-W-PTFE LOW-FRICTION VARIANT

To lower the friction coefficient and provide anti-adhesion properties, the OX-W treatment can be impregnated with PTFE nanoparticles.

## TECHNICAL SPECIFICATIONS

COMPOSITION			
The OX-W treatment transforms base aluminium into a compact layer of aluminium oxide. The composition largely depends on the initial alloy.			
Al	O	S	Impurities
20-40%	50-70%	3-5%	Depending on alloy
APPLICABLE STANDARDS			
PRODUCT TECHNICAL STANDARDS			
ISO 10074	UNI 7796	MIL-A-8625   Type III	
ROHS CONFORMITY			
✔ RoHS conform.			
No restricted-use substances beyond maximum tolerated concentrations.			
REACH CONFORMITY			
✔ REACH conform. No SVHC in quantities greater than 0.1% by weight.			

## ANODIZABLE ALLOYS

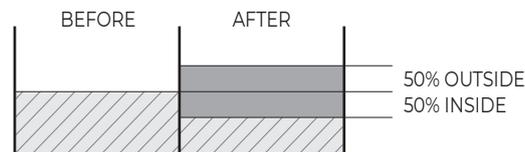
WROUGHT ALLOYS	HARDNESS	WEAR RESISTANCE	CORROSION RESISTANCE	MAX THICKNESS
Series 2000	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆
Series 5000 (with >2%Mg) & 7000	★ ★ ★ ★ ☆	★ ★ ★ ★ ☆	★ ★ ★ ★ ☆	★ ★ ★ ★ ★
Series 6000 (except 6082, 6061)	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★
6082, 6061	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ☆
CASTING ALLOYS				
Alloys with Si>8% or Cu>2%	★ ☆ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆
Die-casts with Si<8% or Cu<2%	★ ★ ☆ ☆ ☆	★ ★ ☆ ☆ ☆	★ ★ ☆ ☆ ☆	★ ☆ ☆ ☆ ☆
Other alloys	★ ★ ☆ ☆ ☆	★ ★ ☆ ☆ ☆	★ ★ ★ ☆ ☆	★ ★ ★ ☆ ☆

## COATING THICKNESS

STANDARD THICKNESS	TOLERANCE
30 µm	± 10 µm

Uniform thickness over the entire external surface. Reduced thickness in holes.

Treatment thickness grows 50% outside and 50% inside the surface of the aluminium piece. The radial dimensional increase is therefore equal to half the treatment thickness.



## AESTHETIC APPEARANCE

Slightly matt appearance with light grey colour. The colour tone depends on the base alloy and treatment thickness. Morphology similar to machined piece.

Black colour option in **OX-WN** version.

## HARDNESS

The OX-W treatment features extra layer hardness. This depends on the type of treated alloy.

HARDNESS VALUE	ALLOY
>280 HV	Series 2000
>330 HV	Series 5000 (with >2% Mg) & 7000
>400 HV	Other wrought alloys

## WEAR RESISTANCE

OX-W has very high abrasive and adhesive wear resistance. This varies according to the type of treated alloy.

WEAR VALUE, TWI-CS17	ALLOY
<35 mg / 10.000 cycles	Series 2000
<25 mg / 10.000 cycles	Series 5000 (with >2% Mg) & 7000
<15 mg / 10.000 cycles	Other wrought alloys

A LOW NUMBER INDICATES A BETTER PERFORMANCE  
MIL-A-8625F 3.7.2.2 AND ISO 10074 C.3 - TABER ABRASER WEAR TEST - ABRASIVE WHEELS CS 17 - LOAD 1 KG

## FRICTION COEFFICIENT

The OX-W-PTFE variant consists of an impregnation treatment of the anodizing layer with PTFE nanometric particles. This impregnation permits obtaining a non-adhesion, self-lubricating surface with low friction coefficient.

## CORROSION RESISTANCE

The OX-W treatment permits obtaining high corrosion and oxidation resistance. Brilliantly withstands 336 hours of exposure to salt mist without any sign of corrosion.

### CORROSION RESISTANCE VALUE

- $\geq 336$  hours without corrosion
- $\geq 1000$  hours without corrosion on 6082 with low roughness

NSS ACCORDING TO ISO 9227 AND ISO 10074 10

## CHEMICAL RESISTANCE

Approximate values of compatibility with the coating environment. The actual resistance to the environment must in any case be tested in the field.

- ✓ Hydrocarbons (e.g. petrol, diesel fuel, mineral oil, toluene)
- ✓ Alcohols, ketones (e.g. ethanol, methanol, acetone)
- ✓ Neutral saline solutions (e.g. sodium chloride, magnesium chloride, brine)
- ✗ Diluted reducing acids (e.g. citric acid, oxalic acid)
- ✗ Oxidizing acids (e.g. nitric acid)
- ✗ Concentrated acids (e.g. sulphuric acid, hydrochloric acid)
- ✗ Diluted bases (e.g. diluted sodium hydroxide)
- ✗ Oxidizing bases (e.g. sodium hypochlorite)
- ✗ Concentrated bases (e.g. concentrated sodium hydroxide)

## DENSITY according to ISO 10074

Series 2000 & alloys with >5% Cu	> 9,5 g/cm <sup>3</sup>
Series 5000 (with >2% Mg) & series 7000	> 9,5 g/cm <sup>3</sup>
Other wrought alloys	> 11 g/cm <sup>3</sup>
Casting alloys with Si<8% or Cu<2%	> 9,5 g/cm <sup>3</sup>
Other casting alloys	By agreement

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