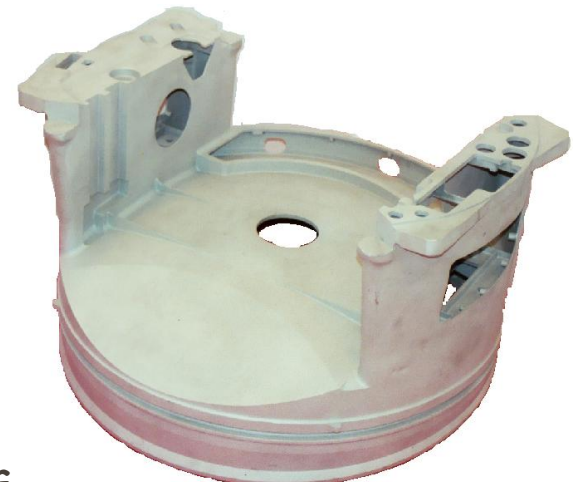
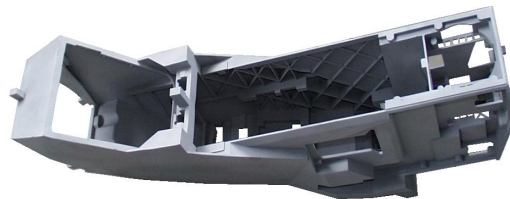


**ADE
Plant**

**MONTIERCHAUME
Plant**



Geographic Location

• CPP Europe

Paris Sales Office
94150 RUNGIS (France)

• Montierchaume Plant

Plant :ZI de la Malterie 36130
MONTIERCHAUME (France)
1H 30 driving from LIMOGES
Airport
2H 30 driving from PARIS



Adé Plant and Head quarter

ZI du TOULICOU

65100 ADE LOURDES (France)

30 minutes driving from PAU Airport

5 minutes driving from LOURDES Airport

1H 30 driving from TOULOUSE Airport



Markets

Aerospace Market 75%

Airbus family all



Dassault 7X

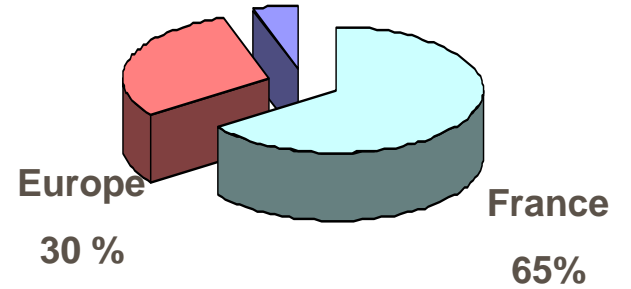


Eurocopter civil helicopter



Countries

North America 5 %



Defense Market 18%

Rafales



A400M



Eurocopter military helicopter



Motorsport Market 7%



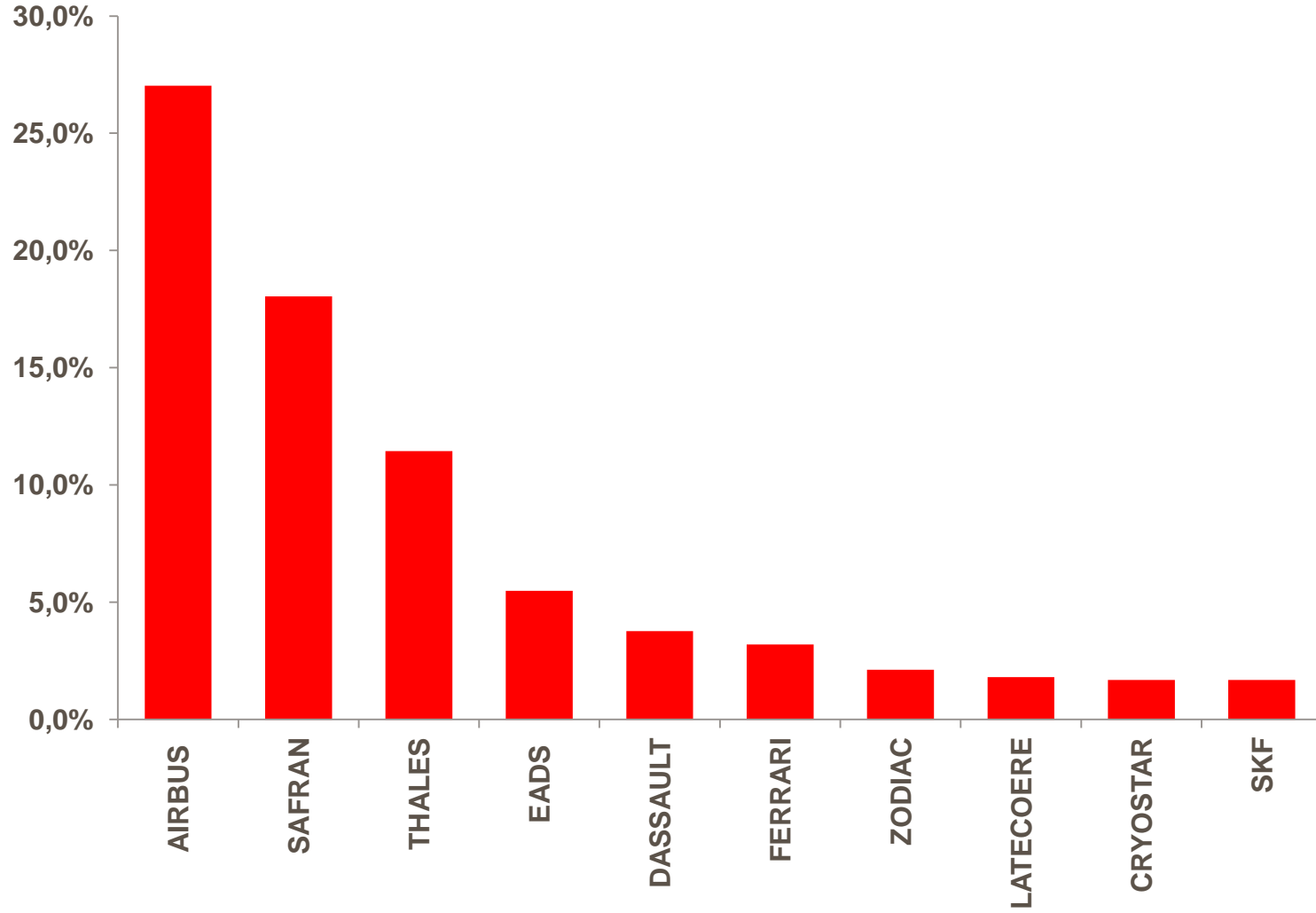
Employees: 275

Global Turnover: 22 M

Export Turnover: 5,5 M

Correspond to 25% of the Global Turnover

TOP 10 CUSTOMERS



Capabilities

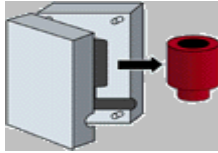
- **Rapid prototyping**
- **3D CAD modeling**
- **Aluminium investment casting**
- **Magnesium investment casting**
- **Copper investment casting**
- **project management**
- **Kitting**

From an approve network of suppliers :

- **Machining**
- **Surface treatments and painting**
- **Assembly**

Bloc mould & Countergravity pouring

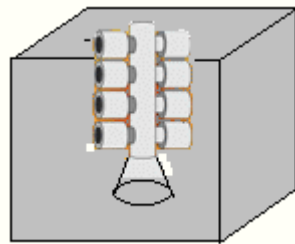
1- Injection of the wax in an aluminium tool



2- Assembly of the wax pattern on a tree



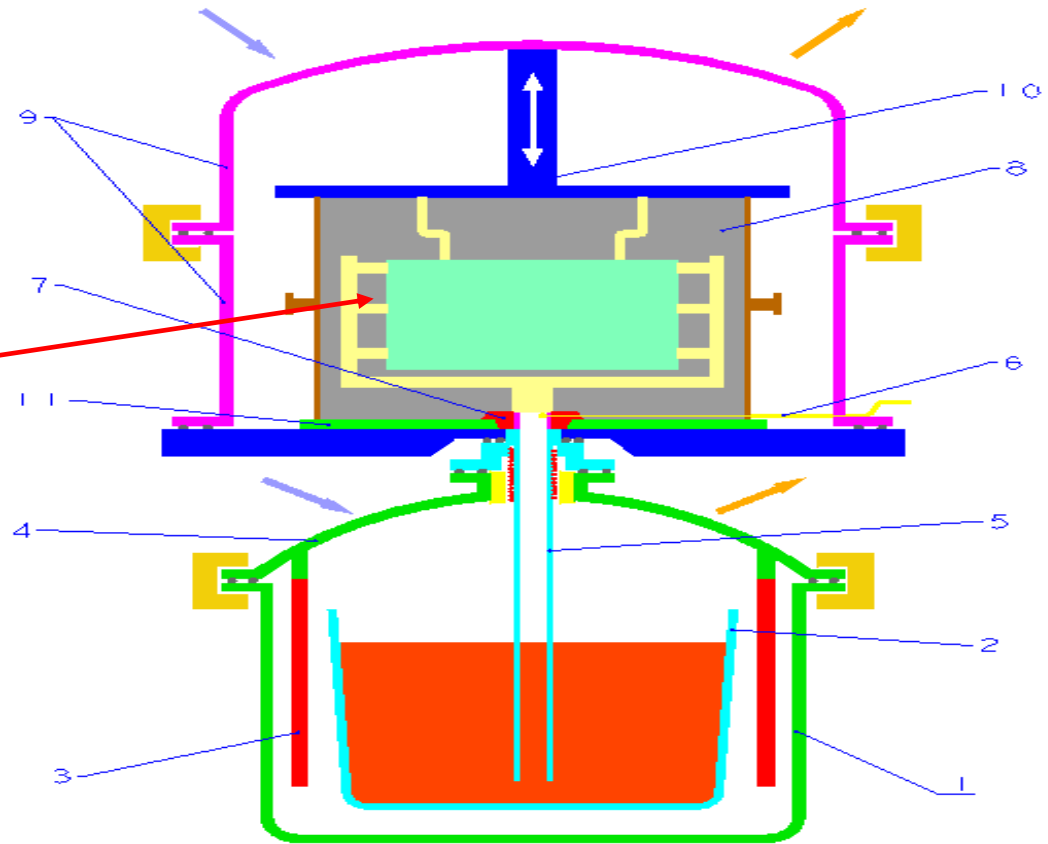
3- Bloc mould
Ceramic poured in a chassis under vacuum



4- De-waxing

5- Mould firing

5- Low-pressure countergravity pouring



Mechanical properties Magnesium

Magnesium alloys

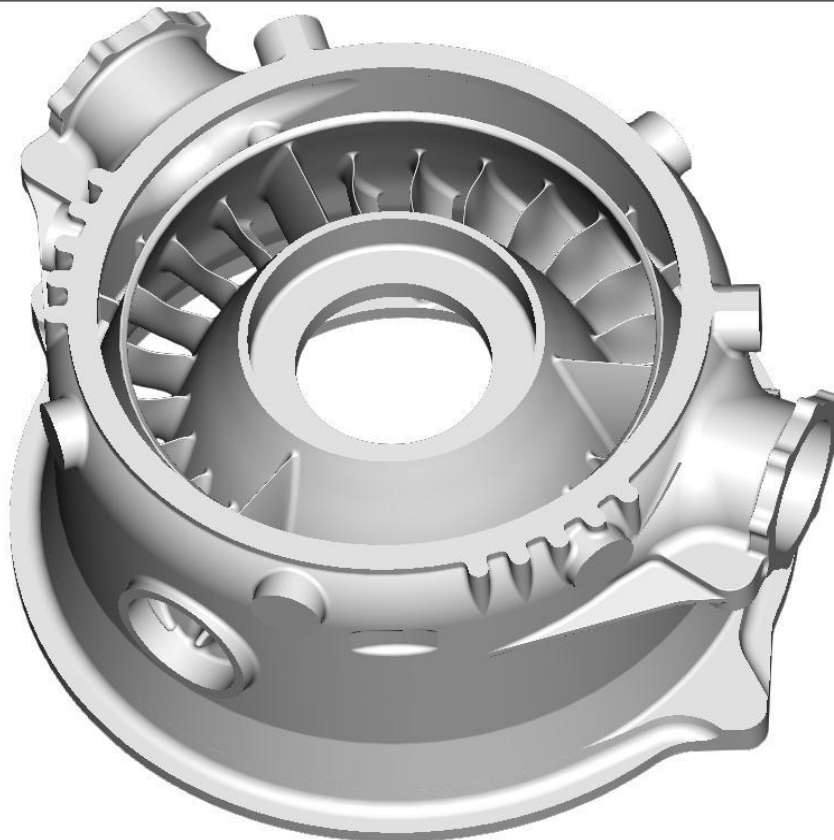
Results from cut up test bar without hip

ELEKTRON 21		
Epaisseur 8 mm		
R Mpa	R 0,2 Mpa	A %
292	175	5,3
Moyenne sur éprouvette de dissection		
Dureté : 105 HB		
<u>Résultat sur éprouvette attenante :</u>		
294	186	5,5
AMS 4429 :		
248	145	2

AZ91E		
Thickness 1,5 mm		
R Mpa	R 0,2 Mpa	A %
250	170	3

Casting example

Jet Engines



Size : 670 x 630 x 350 mm
(26,4 x 24,8 x 13,8 inch)

Class 1, Grade B

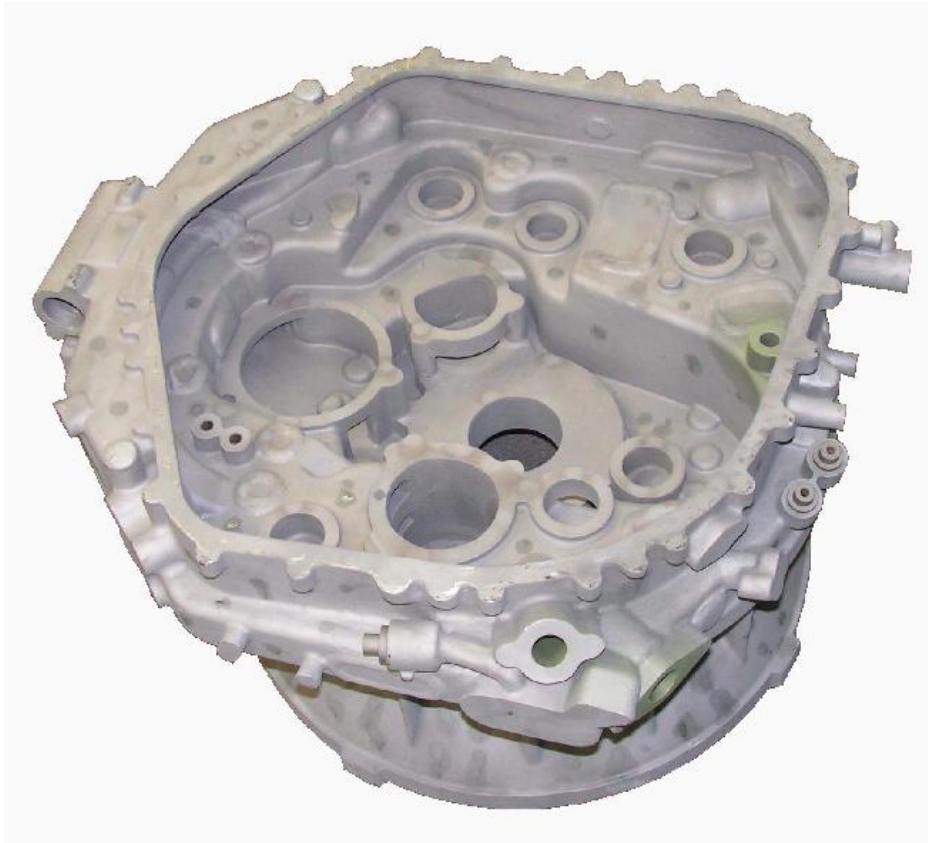
Alloy : A357 T6 (AMS 4219)

Weight : 31 kg (68,6 lbs)

Wall Thickness : 2,5 mm 0,3
(0,098 inch 0,01)

Casting example

Helicopter Structural Part



Size : 550 x 500 x 300 mm
(21,7 x 19,6 x11,8 inch)

Class 2, Grade B/C

Alloy : A357 T6

Weight : 20 kg (44 lbs)

Wall Thickness : 2,5 mm 0,3
(0,098 inch 0,01)

Casting example

Aircraft Structural



Size : \varnothing 730 x 445 mm
(\varnothing 28,7 x 17,5 inch)

Class 2, Grade B/C

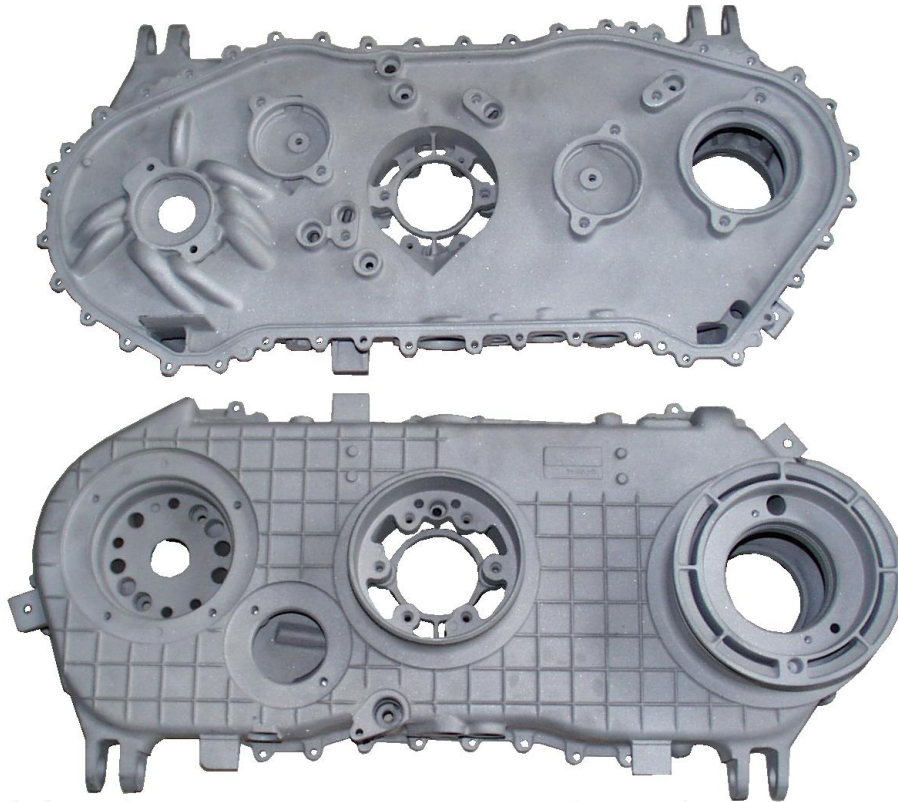
Alloy : A357 T6

Weight : 11,2 kg (24,8 lbs)

Wall Thickness : 2 mm 0,3
(0,079 inch 0,01)

Casting example

Structural part



**Size : 650 x 330 x 145 mm
(25,6 x 13 x 5,7 inch)**

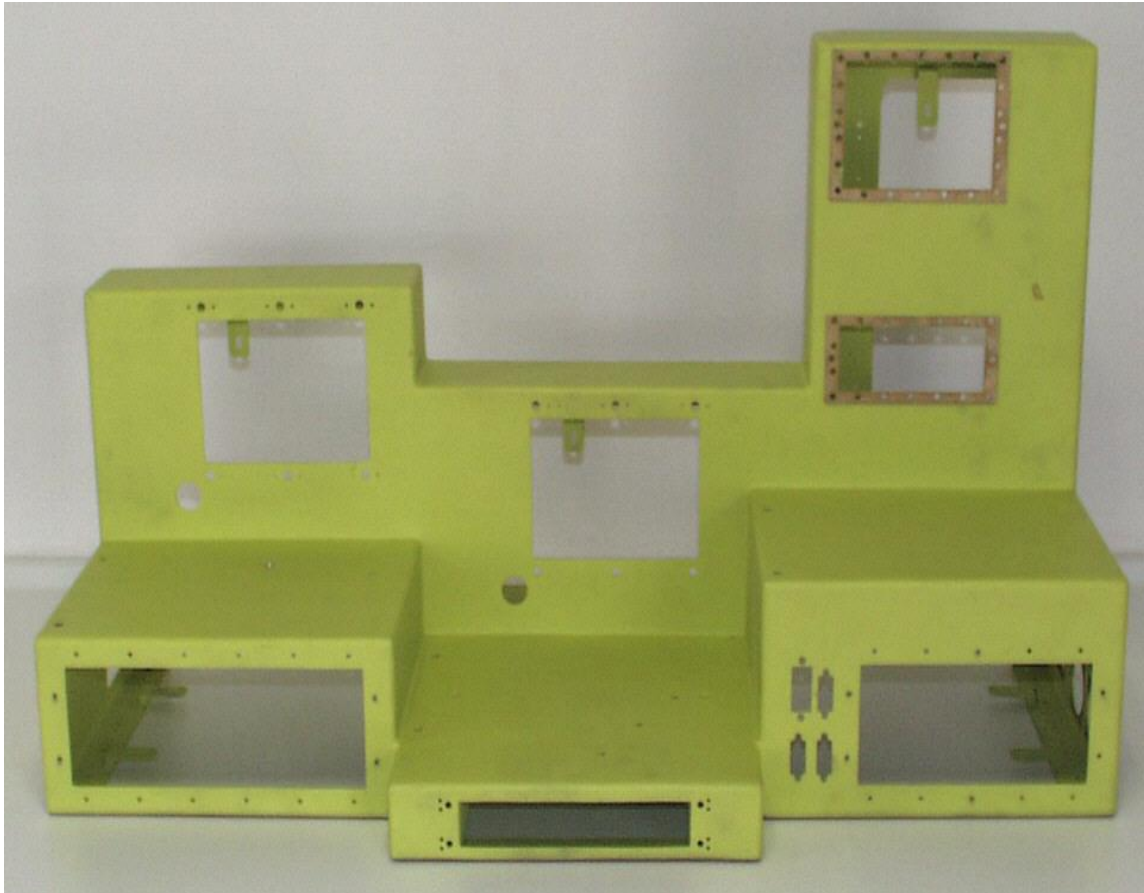
Class 1, Grade B

Alloy : A357 T6

Weight : 7,4 kg (16,8 lbs)

**Wall Thickness : 2 mm
(0,079 inch)**

Aerospace



Dimensions

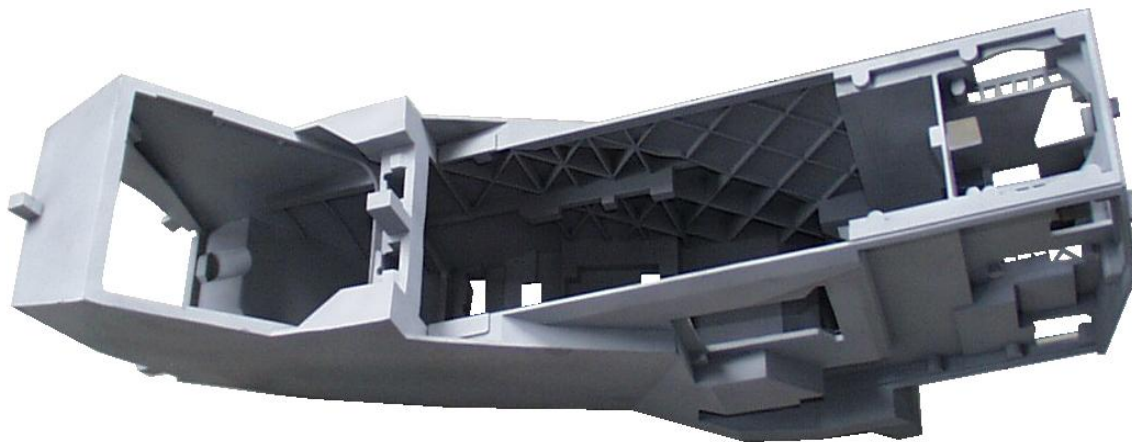
700 x 300 x 420 mm
(27,5 x 11,8 x 16,5 inch)

Alliage

A357 T6 (AMS 4216)
Classe 4D

Casting example

Electronic boxes



Size : 700 x 320 x 170 mm
(27,6 x 12,6 x 6,7 inch)

Class 2, Grade C

Alloy : A357 T6

Weight : 5,8 kg (12,8 lbs)

Wall Thickness : 2,5 mm
(0,098 inch)

Electronic housings



Copper alloys



Copper Alloys: UE10

Dimensions : \varnothing 156 x 66 mm

Thickness: 5 mm

Weight : 2.05 Kg

Magnesium alloys



Alloy :

AZ91 – T6

Dimensions :

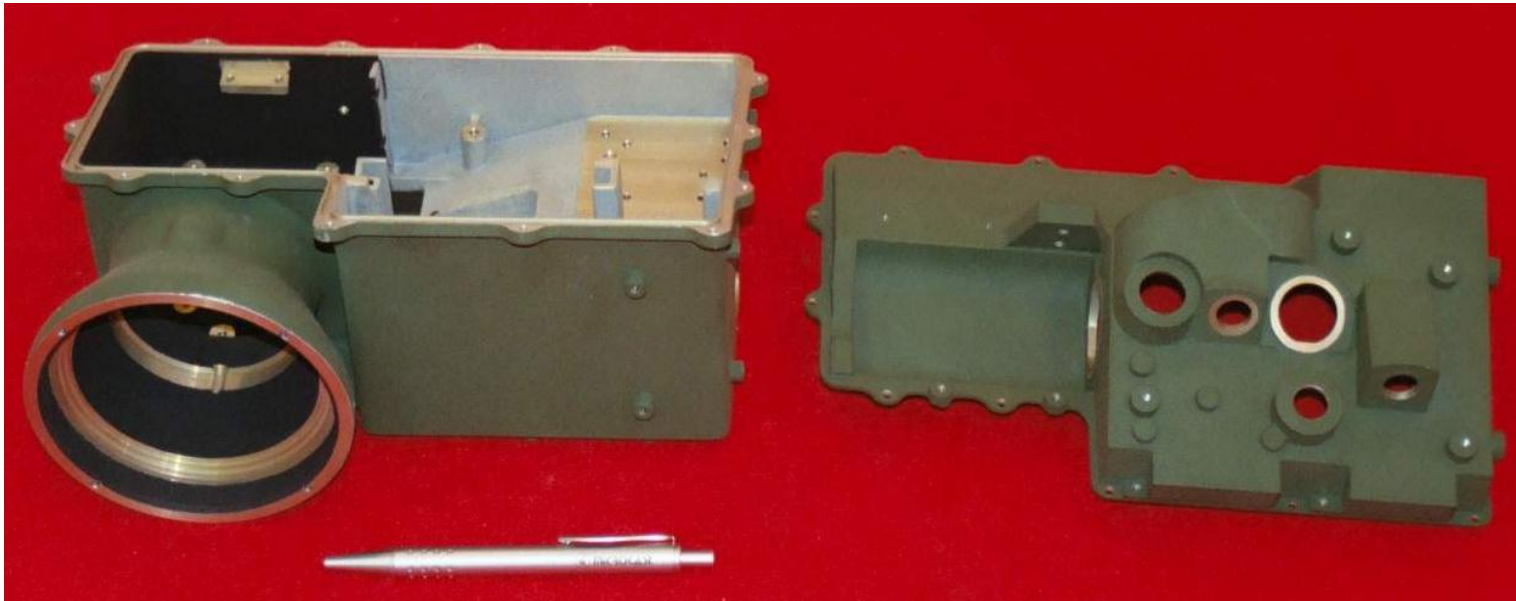
230 x 210 x 70

Wall thickness : 1.8 mm

Weight : 395g

Casting example

Optronic housings

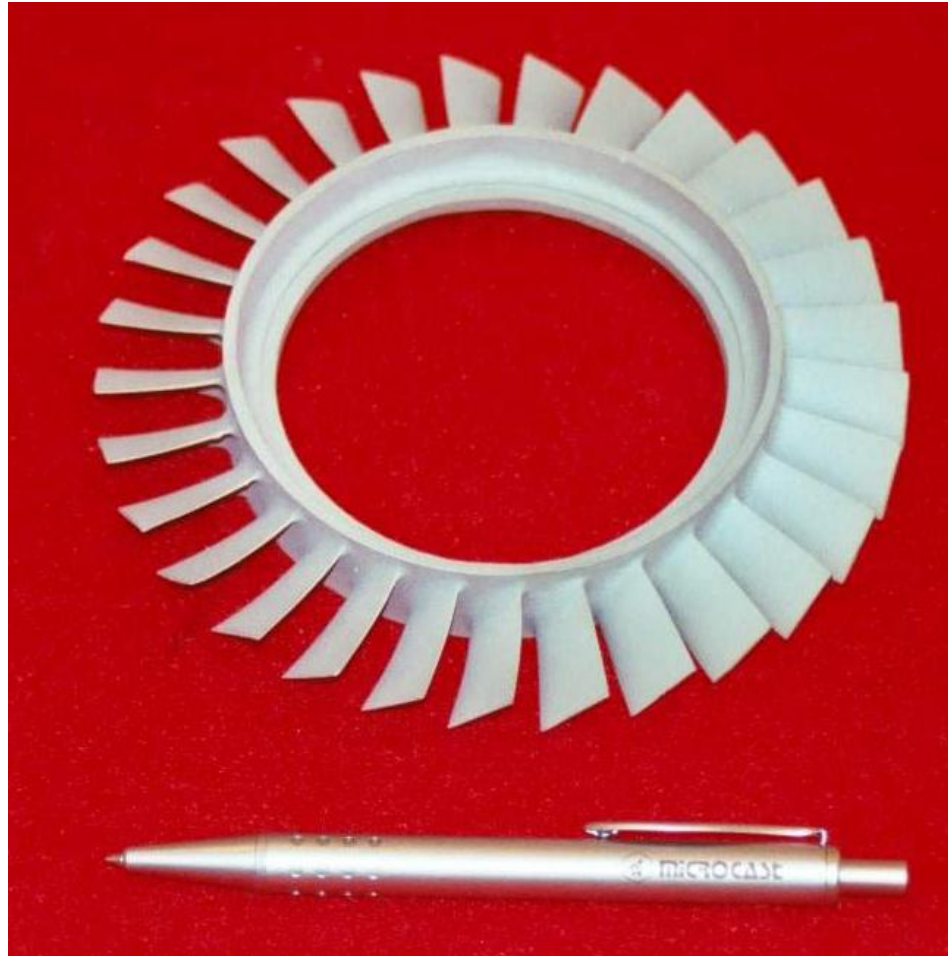


Casting example

Aerospace



FAN



Lead time

	Weeks																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
Rapid prototype			4 to 10 weeks																			
First article*										10 to 16 weeks												
Production						6 to 12 weeks																
Machining												4 weeks										
Protection																		1wk				
Painting																			1wk			

* Including wax injection tool manufacturing



Consolidated Precision Products

EUROPE S.A.S

Direct Customers

AERONAUTICS



Pratt & Whitney
A United Technologies Company

Raytheon

GOODRICH

LIEBHERR



DASSAULT
AVIATION



AUTOMOTIVE



TOYOTA



ELECTRONIC DEFENSE



THALES



OTHER

AATON



ALSTOM



Aerospace

AIRBUS, GENERAL ELECTRIC (réf. 56948), HISPANO SUIZA (Special process), EUROCOPTER (réf. DQ/123-127/92), PRATT & WHITNEY Canada, SNECMA, TECHNOFAN (réf. AQF/9407003), TURBOMECA

Automotive

FERRARI, TOYOTA MOTORSPORT, WILLIAMS

Electronic

ELBIT (réf. 182/E), ELETTRONICA, SAGEM, THALES

Other

AATON, MICROTURBO (réf.061), PROTEOR, RAFAEL SCHLUMBERGER



EUROPE S.A.S

ALLOYS TECHNICAL DATA

Consolidated Precision Products

ALLOYS	CHEMICAL COMPOSITIONS												CHARACTERISTICS				APPLICATION
ALUMINIUM	Si	Fe	Cu	Mn	Mg	Zn	Ti	Sb	Ni	Zr	Ag	Heat Treat	R Mpa (Ksi)	E02 Mpa (Ksi)	A %	HB	
AS 5U 3G C355 with cuper 3%	5 5,5	0,2	3 3,4	0,04	0,23 0,28	0,09	0,13	-	0,04	-	-	T6	380 (55)	300 (44)	5		High mechanical properties Heat applications
AS 7G 03 – A 356 BSL 99-GAL Si 7 Mg UNI 7257 (AMS 4218 4260)	6,50 7,50	0,2 0	0,10	0,10	0,25 0,45	0,10 0,20	0,05 0,20	-	0,05 0,20	-	-	T6	260 (38) 280 (41)	190 (28) 220 (32)	2 3	85	« normal » « premium »
AS 7 G 06 - A 357 UNI 7257 (AMS 4219)	6,50 7,50	0,2 0	0,10	0,10	0,45 0,70	0,10	0,08 0,25	-	-	-	-	T6	270 (39) 330 (48)	220 (32) 270 (41)	2 4	90	« normal » «premium »
AU 5 NK Zr	0,30	0,5 0	4,50 5,50	0,20 0,30	-	-	0,15 0,25	0,10 0,40	1,30 1,80	0,10 0,30	-	T6 T7	220 (32)	180 (26)	1	80	Utilisation under heat
A 201 (AMS 4228)	0,05	0,1 0	4,50 5,00	0,20 0,40	0,15 0,35	-	0,15 0,35	-	-	-	0,40 1,00	T6 T7	420 (61)	350 (51)	5	80	High mechanical resistance
MAGNESIUM	Mg	Y	Nd	HRE	Zr	Zn	Ag						R Mpa (Ksi)	E02 Mpa (Ksi)	A %		
WE43	Rest	3,7 4,3	2,0 2,5	0,4 1,9	0,4	-	-	-	-	-	-		255 (37)	185 (27)	2		High resistance corosion resist, high temp. 300°C
ZRE1 (WL 3.6204 - BS 2970 MAG 6 - AMS 4442D)	Rest	-	-	2,5 4,0	0,4 1,0	0,8 3,0	-	-	-	-	-		130 (19)	100 (14)	2		High castability, resistance creep 260°C, weldable
RZ5 (WL 3.6104 - BS 2970 MAG5 - AMS 44393)	Rest	-	-	0,75 1,75	0,4 1,0	3,5 5,0	-	-	-	-	-		210 (30)	145 (21)	3		Easy casting, high temperature, weldable
MSRB (WL 3.5164 - DTD 5055 - AMS 44180)	Rest	-	-	2,0 3,0	0,4 1,0	0,2	2,0 3,0	-	-	-	-		240 (35)	185 (27)	2		Heat treatment up to 260°C, weldable
CUPER	S	Fe	Cu	Mn	Mg	Zn	Ti	Sb	Ni	Zr	Be		R Mpa (Ksi)	E02 Mpa (Ksi)	A %	HB	
UBE 2	0,20 0,35	0,3 5	Rest	-	-	0,10	-	-	0,20	-	1,85 2,15		550 (80)	330 (48)	2 0	90	High mechanical and high corrosion resistance
UZ 17 S 3 GBCUZn 17 Si3	3 3,8	-	78,5 82	-	-	Rest	-	-	-	-	-		450 (65)	200 (29)	1 2	110	Good mechanical resistance, good casting properties
UA 10 N AB1	AL 8,5 10,5	3,0 5,5 -	- -	≤ 1,8 -	- -	- -	- -	- -	4,0 5,5 -	- -	- -		550 (80)	270 (39)	6	170	Good mechanical characteristics, good corrosion resistance

TOLERANCES TECHNICAL DATA

SIZES	MM	≥1 <3	≥3 <6	≥6 <10	≥10 <18	≥18 <30	≥30 <50	≥50 <80	≥80 <120	≥120 <180	≥180 <250	≥250 <315	≥315 <400	≥400 <500
	INCH	≥ 0,04 < 0,11	≥ 0,11 < 0,23	≥ 0,23 < 0,39	≥ 0,39 < 0,66	≥ 0,70 < 1,18	≥ 1,18 < 1,96	≥ 1,96 < 3,14	≥ 3,14 < 4,72	≥ 4,72 < 7,08	≥ 7,08 < 9,84	≥ 9,84 < 12,40	≥ 12,40 < 15,74	≥ 15,74 < 19,68
LARGE JS15	mm inch	±0,20 ±0,007	±0,24 ±0,009	±0,29 ±0,011	±0,35 ±0,013	±0,42 ±0,016	±0,50 ±0,019	±0,60 ±0,023	±0,70 ±0,027	±0,80 ±0,031	±0,925 ±0,036	±1,05 ±0,041	±1,15 ±0,045	±1,25 ±0,049
NORMAL JS14	mm inch	±0,125 ±0,004	±0,15 ±0,005	±0,18 ±0,007	±0,215 ±0,008	±0,26 ±0,010	±0,31 ±0,012	±0,37 ±0,014	±0,435 ±0,017	±0,5 ±0,019	±0,575 ±0,022	±0,65 ±0,025	±0,70 ±0,27	±0,775 ±0,030
TIGHTENED JS13	mm Inch	±0,09 ±0,0035	±0,10 ±0,0039	±0,11 ±0,0043	±0,135 ±0,0053	±0,165 ±0,0064	±0,195 ±0,0076	±0,23 ±0,0090	±0,27 ±0,0106	±0,315 ±0,0124	±0,36 ±0,0141	±0,405 ±0,0159	±0,445 ±0,0175	±0,485 ±0,0190
FLATNESS		IN FUNCTION WITH THE CONFIGURATION OF THE PIECE : From 0,05 to 0,12 for 25MM (From 0,0019 to 0,0047 for 0,984 INCH)												
CONCENTRICITY		$\leq 6 \text{ MM} : \pm 0,075 ; 6 < C \leq 12,5 = \pm 0,1 ; > 12,5 : \pm 0,25$												
CIRCULARITY		$\leq 0,236 \text{ INCH} : \pm 0,0029 ; 0,23 < C \leq 0,49 = \pm 0,0039 ; > 0,49 : \pm 0,0098$												
ANGULARITY		ANGULAR TOLERANCE $\pm 30'$												
UNEVENESS		Ra = from 2 to 3,2 μm												
TOLERANCE FOR THE WALLS $\pm 0,3 \text{ MM} (\pm 0,001'')$ minimum														

CONTACTS & SALES REPS

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Philippe TEDESCO, President

Thierry HECTOR Sales Engineer Manager

Patrick LOUBERE, Industrial Manager

MONTIERCHAUME

Plant

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