

LAMPIRAN

Lampiran 1. Sertifikat Material

1.1 Data Sheet Aluminium 6061

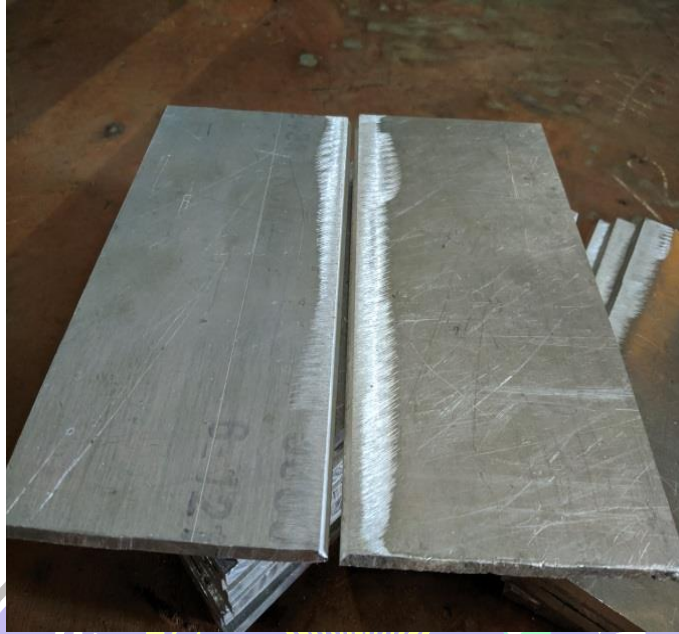
INSPECTION CERTIFICATE No 12.56784

EN 13204-3.6

Consignes:		Quantity		25						
		Net Weight Kg		1.250						
Contract Number		V1051-S		Specification No						
				V1905						
Article number		-		Lot No						
				17						
				Package No 07005						
Description of Goods Plates				Requirements on the Products						
Grade of Product		Dimensions, Inch/mm		Material conform to quality of 6061 T6						
		6x 1220x 2440		Product conform to all requirements of						
				ASTMB209-07						
Mechanical Properties										
The condition of Tested Standards	Lot Number	Cast Number	Number of Tests	Tensile Strength		Yield Strength (0,2% Offset)		Elongation %		Hardness, HB
				ksi		ksi				
				min	max	min	max	min	max	
Required				42,0	-	35,0	-	9,0	-	-
	673707	19-4577	2	45,7	45,7	42,1	42,6	13,0	13,0	100,0
Chemical Composition %										
Element	Silicon St	Iron Fe	Copper Ce	Manganese Mn	Magnesium Mg	Chromium Cr	Nickel Ni	Zinc Zn	Titanium Ti	Zirconium Zr
Required	0,4-0,8	0,7	0,15-0,40	0,15	0,8-1,2	0,04-0,35	-	0,25	0,15	-
Contents	0,64	0,2	0,19	0,06	1,0	0,15	-	0,05	0,07	-
Elements	Tr+Zr	Na	Tm Sn	Bismuth Bi	Plumbum Pb	Mn+Cr	Ca	Other Elements		Al
								Each	Total	
Required	-	-	-	-	-	-	-	0,05	0,15	remainder
Contents	-	-	-	-	-	-	-	0,05	0,15	remainder
Other Tests										
Method	Macro-Structure	Micro-Structure	USI	Electro-conductivity	SCF	Contents H2 of Metals cm ³ /100gr				
Result	-	-	-	-	-	-				

Lampiran 2. Proses Pengelasan

2.1 Pembuatan Kampuh (V groove 60°)



2.2 Proses Pengelasan Spesimen (AL 6061)



2.3 Hasil Pengelasan (A130-V20-25L/menit)



2.4 Parameter Pengelasan (A130 V20)



2.5 Parameter Pengelasan (Filler Metal ER5356 Ø1.2)



2.6 Parameter Pengelasan (Gas Flow Rate 25/menit)



Lampiran 3. Pengerjaan Material

3.1 Pemotongan Sampel Bahan



3.2 Pembentukan Sampel Pengujian



Lampiran 4. Proses PWHT(Post Weld Heat Treatment)

4.1 Furnance dan Control



4.2 Proses Pemanasan Pada Furnance



Lampiran 5. Proses Pendinginan (*Quenching*)

5.1 Quenching Cairan Minyak Rem DOT3, Air Mineral dan Pasir



5.2 Pengecekan Suhu Pada Spesimen (25-27°C)



Lampiran 6. Pengujian Spesimen

6.1 Pengujian Kekerasan (*Hardness Vickers*)



6.2 Pengamatan Struktur Mikro



Lampiran 7. Hasil Pengujian

7.1 Tabel Hasil Pengujian Kekerasan Vickers

Media Pendingin	Identer Titik	Spesimen	HVN	Rata-Rata Nilai Kekerasan (HVN)
Non PWHT	1	Weld Metal	80,10	78,60
	2		81,90	
	3		73,80	
	1	HAZ	82,70	80,33
	2		79,50	
	3		78,80	
	1	Base Metal	87,70	87,13
	2		87,50	
	3		86,20	
Air Mineral	1	Weld Metal	78,30	82,60
	2		85,80	
	3		83,70	
	1	HAZ	78,30	78,77
	2		77,70	
	3		80,30	
	1	Base Metal	88,10	87,63
	2		87,40	
	3		87,40	
Minyak Rem DOT3	1	Weld Metal	74,60	74,37
	2		75,00	
	3		73,50	
	1	HAZ	80,90	81,30
	2		81,50	

	3		81,50		
	1	Base Metal	87,20	86,20	
	2		86,60		
	3		84,80		
Pasir	1	Weld Metal	83,50	82,67	
	2		84,30		
	3		80,20		
	1	HAZ	75,30	74,07	
	2		74,80		
	3		72,10		
		1	Base Metal	86,20	86,17
		2		86,70	
		3		85,60	

