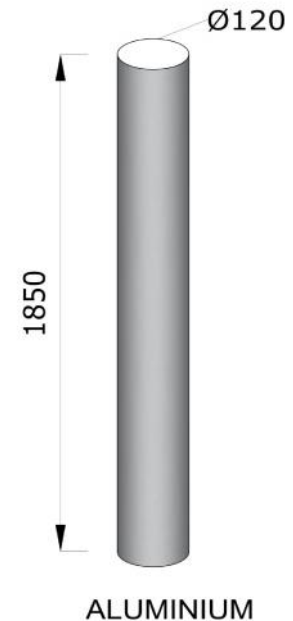


# CERTIFICATE OF MATERIAL

PRODUK	AL-ANODE	CUTOMER		INSPECTOR		QUANTITY	20 (pcs)
		ADDRESS		DATE OF DELIVERY	JANUARY 2020	CERTIFICATE NO.	001/PPS/LAB-QA/FC/1/2020
MODELS	57 kg (Nett)	PO.NO	O.229/JSUG-05/19-LK	NPP NO.	19210ANF	DRAWING NO.	P19-016-MPK-DWG-001

NO	INSPECTION ITEM	STANDARD	TEST RESULT ( LOT / BACT.NO)				JUDGE	DRAWING			
			014A T15	016A T15	016A T23	017A T23					
<b>I</b>	<b>DIMENSION</b>	<b>NACE STD RP0387-2006</b>									
1	Panjang Anode (L)	1850 ± 56	1842	1845	1843	1844	Ok				
2	Diameter Anode (D)	120 ± 3	120	120	120	120	Ok				
<b>II</b>	<b>APPEAREANCE</b>	<b>NACE STD RP0387-2006</b>									
1	Crack	Not Crack	√	√	√	√	Ok				
2	Misrun	Not Misrun	√	√	√	√	Ok				
3	Srinkage	Not Srinkage	√	√	√	√	Ok				
4	Straightness	2 % max of total length	√	√	√	√	Ok				
<b>III</b>	<b>ANODE WEIGTH</b>	<b>NACE STD RP0387-2006</b>									
	Gross Weigth (kg)	57 ± 1,7	57,00	58,00	57,60	57,40	Ok				
<b>IV</b>	<b>CHEMICAL COMPOSITION (%)</b>										
		<b>STANDARD</b>	<b>Cu</b>	<b>Si</b>	<b>Fe</b>	<b>Zn</b>	<b>Ti</b>		<b>In</b>	<b>Al</b>	
			<b>0,01 (Max)</b>	<b>0,05 - 0,20</b>	<b>0,13 (Max)</b>	<b>2,0 - 6,0</b>	<b>-</b>		<b>0,015 - 0,05</b>	<b>Remainder</b>	
	TEST RESULT ( LOT / BACT.NO )	014A T15	0,000	0,083	0,059	3,833	-		0,018	95,987	Ok
		016A T15	0,000	0,078	0,060	3,512	-		0,017	96,313	Ok
		016A T23	0,000	0,078	0,065	4,396	-	0,019	95,424	Ok	
		017A T23	0,000	0,077	0,064	3,313	-	0,016	96,512	Ok	

<b>V</b>	<b>ANODE ELECTRICAL PERFORMANCE</b>	<b>NACE TM-0190-90</b>						
	<b>PERFORMANCE</b>	<b>STANDARD</b>	<b>SATUAN</b>					
	Anode Efficiency	80 to 90	(%)					
	Consumtion Rate	3,1 to 3,3	(kg/A.year)					
	Anode Potential	-1050 to -1100	(mV)					
	Current Capacity	2500 to 2700	(Ah/kg)					
				<b>APPROVED BY</b>				
		<b>PREPARED</b>	<b>QA-HEAD</b>		<b>MANAGER</b>			