

CERTIFICATION REPORT



SOLD TO CIRCUIT CONTROLS CORP. 2277 M-119 HIGHWAY PETOSKEY, MI 49770	SHIP TO CIRCUIT CONTROLS CORP. 2277 M-119 HIGHWAY PETOSKEY, MI 49770	ENTRY - BOL 62012-404783
		ALLOY KLF5
PRODUCT DESCRIPTION 5.8750 .01570 H04 PHOS BRONZE KLF-5 STRIP *REFLOW* P/N 2924-4000-3420 DATED 6/06/00 (1.3465)	QUANTITY ORDERED PCS. LBS. 999000	PCS. 3 LBS. 5750 DATE 11/2/2015 TIME 2:26:57 PM
	CUSTOMER ORDER NO. OUTO-3/PULL GOV'T CONTRACT NO. <i>15M057</i>	

COIL NUMBER	704565	723638BD	722347AA	722183AB	731964AA	
COMPOSITION - %						
Copper	97.69	97.60	97.66	97.60	97.67	
Iron	.115	.103	.094	.104	.089	
Phosphorous	.034	.033	.034	.034	.036	
Tin	2.05	2.14	2.11	2.11	2.06	
PROPERTIES						
Tensile Str. (N/mm ²)	550.2	557.7	557.7	542.6	559.1	
Elongation (%)	9.8	11.6	10.2	11.7	8.2	
Grain Size (RTF) in mm	.010	.010	.010	.010	.010	
Vickers	170	171	176	171	172	
Bend Test (L)	OK	OK	OK	OK	OK	
Bend Test (T)	OK	OK	OK	OK	OK	
Elec. Cond. (%) IACS	36.4	38.2	39.4	38.4	39.5	
RA Side-A (µm)	.0	.1	.1	.0	.1	
RA Side-B (µm)	.1	.1	.1	.0	.1	
Coating Thickness (µm)	1.2	1.0	1.1	1.2	1.0	
Spring Limit (N/mm ²)	471.5	468.5	463.4	457.9	469.5	
Gauge in mm	.39497	.39624	.39878	.39878	.39370	

Certification Report continues on the next page.

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		ALLOY KLF5
PRODUCT DESCRIPTION 5.8750 .01570 H04 PHOS BRONZE KLF-5 STRIP *REFLOW* P/N 2924-4000-3420 DATED 6/06/00 (1.3465)	QUANTITY ORDERED PCS. 3 LBS. 5750 DATE 11/2/2015 TIME 2:27:02 PM	CUSTOMER ORDER NO. OUTO-3/PULL GOVT CONTRACT NO. 15M057
	PCS. 999000	

COIL NUMBER	731964AB	731983BAA	730921AAB			
COMPOSITION - %						
Copper	97.67	97.68	97.62			
Iron	.089	.092	.095			
Phosphorous	.036	.036	.031			
Tin	2.06	2.05	2.08			
PROPERTIES						
Tensile Str. (N/mm ²)	559.1	557.0	569.5			
Elongation (%)	8.2	10.3	10.0			
Grain Size (RTF) in mm	.010	.010	.010			
Vickers	172	178	172			
Bend Test (L)	OK	OK	OK			
Bend Test (T)	OK	OK	OK			
Elec. Cond. (%) IACS	39.5	39.9	37.2			
RA Side-A (µm)	.1	.0	.0			
RA Side-B (µm)	.1	.1	.0			
Coating Thickness (µm)	1.0	1.0	1.1			
Spring Limit (N/mm ²)	469.5	446.0	466.9			
Gauge in mm	.39370	.39751	.38989			

WE HEREBY CERTIFY that these test results were obtained from samples taken from coil(s), which were produced for the purchase order stated. These samples have been subjected to the tests called for by the customer and /or ASTM specification(s).

This product was manufactured in compliance with all applicable government and safety constraints on restricted, toxic, and hazardous materials and complies to the Restriction of Hazardous Substances (RoHS2) Directive 2011/65/EU and the Consumer Product Safety Improvement Act of 2008.

Aurubis Buffalo, Inc. product Material Safety Data Sheets (MSDS) provides component information for all hazardous materials in conformance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Technical Department - Lawrence Wypij

