



Kester
 An Illinois Tool Works Company
 800 West Thorndale Avenue
 Itasca, Illinois 60143-1341
 Telephone: (847) 297-1600
 Fax: (847) 390-9338

CERTIFICATE OF ANALYSIS

MAILER NUMBER: 050272

CUSTOMER PO:

REPORT DATE: Jan 02 2008

SAMPLE DESCRIPTION: 21561 12/20/07

SOLDER ANALYSIS - OPTION: Option C

RECOMMENDED MAXIMUM CONTAMINATION ¹

TEST	UNITS	RESULT	Assembly	
			<u>Soldering</u> ²	<u>Preconditioning</u> ⁴
Tin	wt%	63.12		
Lead	wt%	Balance		
Antimony	wt%	0.0405	0.5000 ³	0.5000 ⁴
Copper	wt%	0.0436	0.3000 ⁵	0.7500 ⁶
Gold	wt%	0.0005	0.2000	0.5000
Aluminum	wt%	0.0001	0.0060	0.0080
Cadmium	wt%	0.0001	0.0050	0.0100
Zinc	wt%	0.0008	0.0050	0.0080
Silver	wt%	0.0021	0.1000 ⁷	0.7500 ⁸
Bismuth	wt%	0.0075	0.2500	0.2500
Arsenic	wt%	0.0029	0.0300	0.0300
Iron	wt%	0.0004	0.0200	0.0200
Indium	wt%	0.0008		
Nickel	wt%	0.0008	0.0100	0.0250

- ¹ recommended operating limits per MIL-STD-2000, WS6536 and J-STD-001
- ² combined total of copper, gold, aluminum, zinc & cadmium should not exceed 0.4% when not specified as an alloy component
- ³ when not specified as an alloy component
- ⁴ when not specified as an alloy component
- ⁵ max recommended in WS6536 is 0.25% or when not specified as an alloy component
- ⁶ max recommended in WS6536 is 0.25% or when not specified as an alloy component
- ⁷ when not specified as an alloy component
- ⁸ when not specified as an alloy component

This document is computer generated and does not require a signature.



Kester
 An Illinois Tool Works Company
 800 West Thorndale Avenue
 Itasca, Illinois 60143-1341
 Telephone: (847) 297-1600
 Fax: (847) 390-9338

CERTIFICATE OF ANALYSIS

MAILER NUMBER: 050288

CUSTOMER PO:

REPORT DATE: Jul 17 2008

SAMPLE DESCRIPTION: 22561 7-11-08
 SOLDER ANALYSIS - OPTION: Option C

RECOMMENDED MAXIMUM CONTAMINATION ¹

TEST	UNITS	RESULT	Assembly	
			<u>Soldering</u> ²	<u>Preconditioning</u>
Tin	wt%	63.19		
Lead	wt%	Balance		
Antimony	wt%	0.0239	0.5000 ³	0.5000 ⁴
Copper	wt%	0.0454	0.3000 ⁵	0.7500 ⁶
Gold	wt%	0.0005	0.2000	0.5000
Aluminum	wt%	0.0001	0.0060	0.0080
Cadmium	wt%	0.0001	0.0050	0.0100
Zinc	wt%	0.0003	0.0050	0.0080
Silver	wt%	0.0026	0.1000 ⁷	0.7500 ⁸
Bismuth	wt%	0.0083	0.2500	0.2500
Arsenic	wt%	0.0005	0.0300	0.0300
Iron	wt%	0.0008	0.0200	0.0200
Indium	wt%	0.0016		
Nickel	wt%	0.0006	0.0100	0.0250

¹ recommended operating limits per MIL-STD-2000, WS6536 and J-STD-001

² combined total of copper, gold, aluminum, zinc & cadmium should not exceed 0.4% when not specified as an alloy component

³ when not specified as an alloy component

⁴ when not specified as an alloy component

⁵ max recommended in WS6536 is 0.25% or when not specified as an alloy component

⁶ max recommended in WS6536 is 0.25% or when not specified as an alloy component

⁷ when not specified as an alloy component

⁸ when not specified as an alloy component

This document is computer generated and does not require a signature.



Kester
 An Illinois Tool Works Company
 800 West Thorndale Avenue
 Itasca, Illinois 60143-1341
 Telephone: (630) 616-4000
 Fax: (630) 616-4044

CERTIFICATE OF ANALYSIS

MAILER NUMBER: 054839

CUSTOMER PO:

REPORT DATE: Feb 27 2009

SAMPLE DESCRIPTION: 22561 2-20-09
 SOLDER ANALYSIS - OPTION: Option C

RECOMMENDED MAXIMUM CONTAMINATION ¹

TEST	UNITS	RESULT	Assembly			
			<u>Soldering</u> ²	<u>Exceeds</u>	<u>Preconditioning</u>	<u>Exceeds</u>
Tin	wt%	62.79				
Lead	wt%	Balance				
Antimony	wt%	0.0231	0.5000 ³		0.5000 ⁴	
Copper	wt%	0.0238	0.3000 ⁵		0.7500 ⁶	
Gold	wt%	0.0007	0.2000		0.5000	
Aluminum	wt%	0.0001	0.0060		0.0080	
Cadmium	wt%	0.0001	0.0050		0.0100	
Zinc	wt%	0.0009	0.0050		0.0080	
Silver	wt%	0.0025	0.1000 ⁷		0.7500 ⁸	
Bismuth	wt%	0.0084	0.2500		0.2500	
Arsenic	wt%	0.0018	0.0300		0.0300	
Iron	wt%	0.0006	0.0200		0.0200	
Indium	wt%	0.0016				
Nickel	wt%	0.0005	0.0100		0.0250	

- ¹ recommended operating limits per MIL-STD-2000, WS6536 and J-STD-001
- ² combined total of copper, gold, aluminum, zinc & cadmium should not exceed 0.4% when not specified as an alloy component
- ³ when not specified as an alloy component
- ⁴ when not specified as an alloy component
- ⁵ max recommended in WS6536 is 0.25% or when not specified as an alloy component
- ⁶ max recommended in WS6536 is 0.25% or when not specified as an alloy component
- ⁷ when not specified as an alloy component
- ⁸ when not specified as an alloy component

This document is computer generated and does not require a signature.



Kester
 An Illinois Tool Works Company
 800 West Thorndale Avenue
 Itasca, Illinois 60143-1341
 Telephone: (630) 616-4000
 Fax: (630) 616-4044

CERTIFICATE OF ANALYSIS

MAILER NUMBER: NC5354

CUSTOMER PO:

REPORT DATE: May 28 2009

SAMPLE DESCRIPTION: 22561

SOLDER ANALYSIS - OPTION: Option C

RECOMMENDED MAXIMUM CONTAMINATION ¹

TEST	UNITS	RESULT	Assembly	
			<u>Soldering</u> ²	<u>Preconditioning</u> ⁴
Tin	wt%	61.91		
Lead	wt%	Balance		
Antimony	wt%	0.0213	0.5000 ³	0.5000 ⁴
Copper	wt%	0.0200	0.3000 ⁵	0.7500 ⁶
Gold	wt%	0.0006	0.2000	0.5000
Aluminum	wt%	0.0001	0.0060	0.0080
Cadmium	wt%	0.0001	0.0050	0.0100
Zinc	wt%	0.0009	0.0050	0.0080
Silver	wt%	0.0026	0.1000 ⁷	0.7500 ⁸
Bismuth	wt%	0.0086	0.2500	0.2500
Arsenic	wt%	0.0014	0.0300	0.0300
Iron	wt%	0.0006	0.0200	0.0200
Indium	wt%	0.0015		
Nickel	wt%	0.0005	0.0100	0.0250

¹ recommended operating limits per MIL-STD-2000, WS6536 and J-STD-001

² combined total of copper, gold, aluminum, zinc & cadmium should not exceed 0.4% when not specified as an alloy component

³ when not specified as an alloy component

⁴ when not specified as an alloy component

⁵ max recommended in WS6536 is 0.25% or when not specified as an alloy component

⁶ max recommended in WS6536 is 0.25% or when not specified as an alloy component

⁷ when not specified as an alloy component

⁸ when not specified as an alloy component

This document is computer generated and does not require a signature.