



Idaho Laboratories Corporation

2101 Hemmert Ave.
 Idaho Falls, ID 83401
 Phone (208) 522-0055
 Fax (800) 524-4522

MATERIAL CERTIFICATE

Material Heat #: 37133
 ILC Sales Order #: 199701
 Customer P.O. #: 4870

Material Description: 125-J-316
 Customer: HEAT & SENSOR

The materials and services supplied are in conformance with ASTM E585/585M-12 and/or customer purchase order requirements. Thermocouple material has been calibrated as covered by ASTM E-220 07a, ASTM E-230, AMS 2750, ANSI/NCSL Z540.3-2006 and ITP 0017 Rev.C and is traceable to the National Institute of Standards and Technology.

ROHS Compliance - In addition, all mineral insulated cable is in conformity with the requirements of the directive 2002/1995/EC on the restriction of certain hazardous substances in electrical and electronic equipment regarding lead, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE), and directive 2003/11/EC relating restrictions on marketing and use of certain dangerous substances or preparations (pentabromodiphenyl ether, octabromodiphenyl ether).

CALIBRATION REPORT

Actual Temperature (°F)	Measured Temperature (°F)	Deviation (°F)
624.708	627.114	2.406
624.514	626.919	2.405
780.077	782.759	2.682
780.825	783.313	2.488
1203.967	1206.521	2.554
1203.273	1205.538	2.265

RAW MATERIALS REPORT

Tube		Thermoelement		Thermoelement		Insulator	
Material	316 SST	KAN-JN		KAN-IRON		MgO	
Heat #	8VP5	131037		BE9858205		13-43-L	
Spec.	ASTM A312	ASTM E230		ASTM E230		Al ₂ O ₃	0.33%
C	.019	C	0.0010	Al	0.012	B	15.0 PPM
Cr	16.901	Co	0.260	C	0.030	C	0.004%
Cu	.293	Cu	Bal	Fe	Bal	CaO	0.85%
Mn	1.584	Mn	1.25	Mn	0.20	Fe ₂ O ₃	0.13%
Mo	2.014	Ni	42.30	P	0.010	MgO	97.162%
N	.041	S	0.001	Si	0.045	S	0.001%
Ni	10.002					SiO ₂	1.52%
P	.030						
S	.011						
Si	.502						

ILC Quality Assurance

Apr 3, 2014
 Date

Q.A. int.



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MATERIAL CERTIFICATE

Material Heat #: 36502
ILC Sales Order #: 195179
Customer P.O. #: 4295

Material Description: 125-J-316
Customer: HEAT & SENSOR

The materials and services supplied are in conformance with ASTM E585/585M-12 and/or customer purchase order requirements. Thermocouple material has been calibrated as covered by ASTM E-220 07a, ASTM E-230, AMS 2750, ANSI/NC SL Z540.3-2006 and ITP 0017 Rev.C and is traceable to the National Institute of Standards and Technology.

ROHS Compliance - In addition, all mineral insulated cable is in conformity with the requirements of the directive 2002/1995/EC on the restriction of certain hazardous substances in electrical and electronic equipment regarding lead, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE), and directive 2003/11/EC relating restrictions on marketing and use of certain dangerous substances or preparations (pentabromodiphenyl ether, octabromodiphenyl ether).

CALIBRATION REPORT

Actual Temperature (°F)	Measured Temperature (°F)	Deviation (°F)
436.008	437.681	1.673
436.632	438.038	1.406
788.664	791.398	2.733
790.157	792.799	2.641
1222.295	1225.83	3.536
1222.295	1225.475	3.18

RAW MATERIALS REPORT

Tube		Thermoelement		Thermoelement		Insulator	
Material	316 SST	KAN-IRON		KAN-JN		MgO	
Heat #	8VP5	BE9858205		131037		12-53-L	
Spec.	ASTM A312	ASTM E230		ASTM E230		Al ₂ O ₃	0.38%
C	.019	Al	0.012	C	0.0010	B	15.7 PPM
Cr	16.901	C	0.030	Co	0.260	C	0.004%
Cu	.293	Fe	Bal	Cu	Bal	CaO	0.85%
Mn	1.584	Mn	0.20	Mn	1.25	Fe ₂ O ₃	0.13%
Mo	2.014	P	0.010	Ni	42.30	MgO	97.061%
N	.041	Si	0.045	S	0.001	S	0.002%
Ni	10.002					SiO ₂	1.58%
P	.030						
S	.011						
Si	.502						

ILC Quality Assurance

Apr 3, 2014
Date

Q.A. int.