



SPECIFICATION

Advanced LIGO Music Wire Specification for California Fine Wire Company

AUTHOR(S)	DATE	Document Change Notice, Release or Approval
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1 Scope

This document defines the requirements for music wire to be supplied by California Fine Wire Company and used in the Advanced LIGO suspension systems.

2 Requirements

2.1 General

- Material: Music Wire per ASTM A 228/A 228M chemical only
- Temper: Stress Relieved
- Minimum Tensile Strengths:

Diameter (inches)	Minimum Tensile (ksi)
0.0047	360
0.0060	350
0.0079	340
0.0098	330
0.0106	330
0.0134	320
0.0140	320
0.0160	310
0.0180	310
0.0240	290
0.0250	290
0.0280	290
0.0433	290

- Diameter tolerance (inches):
 - 0.0030 to 0.0109 +/-0.0001
 - 0.011 to 0.019 +/- 0.0003
 - 0.020 to 0.050 +/- 0.0005
- Minimum 8 inch cast at 12 inch length.

**Advanced LIGO Music Wire Specification
for California Fine Wire Company****2.2 Processing**

- Clean gloves must be worn at all times. (No bare hands touching the wire)
- Wire must be fresh drawn within 2 weeks of shipment
- Wire must be free of oil and grease and must not be used during the manufacturing process

2.3 Inspection and Documentation

- Wire shall be free of rust, scale, corrosion, spotting artifacts, die marks, pits, and scratches visible at 10X magnification
- Provide Material Certifications
- Provide Certificate of Conformance to Purchase Order requirements

2.4 Packaging

- Wire shall be shipped on 12 inch diameter spools
- Wire shall be tightly wrapped with anti-corrosion paper and taped
- Desiccant shall be added inside plastic shipping bag
- Purge plastic shipping bag with inert gas before sealing
- Double bag