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HELIUM TRANSFER LINE COST

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INTRODUCTION

The production and installation costs of the 400 foot long vacuum insulated 2 inch OD liquid helium supply and cold return lines utilized for the ESCAR Subsystem testing of quadrants I and II are reported.

DESCRIPTION

The transfer line is composed of an inner 2 inch OD x 0.035 wall stainless steel tube, wrapped with 40 layers of aluminized mylar and centered within a 3.5 inch OD aluminum vacuum jacket with fiberglass standoffs. Differential expansion between the inner and outer lines is accommodated by thin wall bellows on the inner line. The assembly drawing for the system is shown on 1BK 4266. Heat leak test results are reported in M5086.

COSTS

The shop time to produce the subassemblies which were later joined in the field was 2.8 m. hrs./ft. The installation time worked out to 1.7 m. hrs./ft. At $20.4 /m. hr. the labor cost is then $92/ft. The material cost was $19/ft. The total installed cost is then $111/ft.
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