



# Precision Plating

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## Objective

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The Precision Plating Research Facility is centered on the development of electroformed zero residual stress nickel alloys for optical mirrors that maintain optical integrity without plastic deformation with the characteristics of polishability, high specific strength, ultra-low ductility, and high elastic modulus. The facility also assists with electroplating process development and problem resolution on several Space Shuttle components. The facility has also begun to investigate a new zero stress probe measurement system.

## Why Needed

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The historical approach for optical mirror processing consisted of utilizing multiple mandrels of the same shape and size and electroform on each. These electroformed mirrors required polishing to obtain the desired "figure." The Precision Plating Research Facility is assisting in developing a replicated manufacturing process which would electroform repeatedly on a specially prepared mandrel with the desired figure. The primary project utilizing these practices is Constellation X.

## Point of Contact

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## Sponsor

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