

# TECHNOLOGIES TRANSFERRED FROM ISRO

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## ACRAMID

(Technology Transferred to Cosmotone Conductors Pvt. Ltd.)

Polyaramid reinforced plastic is a popular composite used for various launch vehicle applications. 'ACRAMID' is yet another space spin off from ISRO developed from composites technology. ACRAMID is a denture material developed based on composite technology. ACRAMID is the composite of polyaramid fibres and poly methyl methacrylate resin. ACRAMID is used for fixed prosthodontic restoration when a tooth is lost. The conventional treatment is not popular among the common folks due to the prohibitive material and fabrication cost of prosthesis. Materials presently used are metallic alloys containing gold, silver and ceramics. Fabrication using these materials requires sophisticated equipments. ACRAMID is a viable substitute for metal, alloys and ceramics. It is made with short fibre reinforcement to avoid microcracks and longitudinal reinforcement to withstand operational loads.

Toxicological and biocompatibility tests showed no ill effects. Clinical trials showed that the prosthesis would remain successful for many years. Product testing for mechanical loads has demonstrated good margin of safety. The advantages of ACRAMID are; cost 5% that of gold, better aesthetics because of matching colour, light weight, easily processible, need minimum lab equipments and easily repairable. The ACRAMID prosthesis has been worked out in such a way to avoid costly equipment for the making of dentures.

*For further details, please contact:*

Director  
Technology Transfer & Industry Cooperation (TT&IC)  
ISRO Headquarters  
"Antariksh Bhavan"  
New BEL Road  
Bangalore - 560 094



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**TT&IC, ISRO HQ, Antariksh Bhavan, New BEL Road, Bangalore - 560 094**  
**[www.isro.gov.in](http://www.isro.gov.in)**