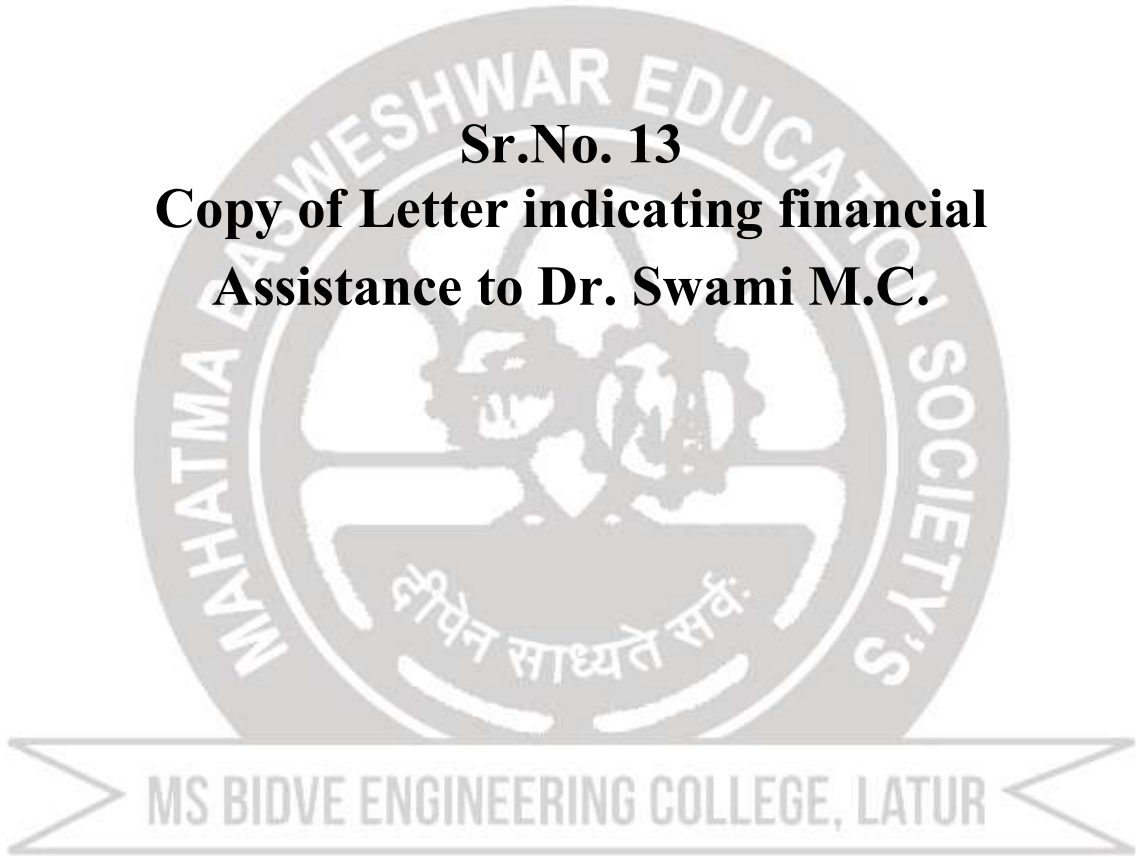


Sr.No. 13

**Copy of Letter indicating financial
Assistance to Dr. Swami M.C.**




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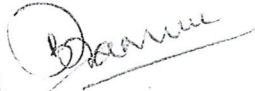
Expenditure Head Paper Published in IJEAT Date: 12.03.2020


Full Name of the claimant Swami Mahesh Chandrashekhar

Particulars	Rs.	Ps.	Signature
Research Paper "Effect of Salt Spray on behavior of flexural & ILSS Properties of composite laminates" Published in IJEAT, Vol. 09 Issue-3 Feb-2020 Published by Blue Eye Inc. Total amount Paid <u>Rs. 8000/-</u> ELSS. As per college policy 50% amount Rs. in Words _____	<u>4000/-</u>		
<u>four thousand only</u> Total Rs.	<u>4000/-</u>		


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Principal

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4/2020

Yahoo Mail - PSG

PSG

From: neftinfo.itps@sbi.co.in (neftinfo.itps@sbi.co.in)
To: mcswami@yahoo.co.in
Date: Friday, 14 February, 2020, 12:07 pm IST

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The details of the NEFT transaction originated by you are given below.

A/c Debited: XX4481
Date: 14/02/2020
UTR No.: SBIN520045884185
Beneficiary Name: BLUE EYES INTELLIGENCE ENGINEERING
Beneficiary A/c No.: XX0244
Bank IFSC: BARB0AYOBHO
Amount Remitted: INR 8,000.00

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CERTIFICATE

This is certified that research paper entitled ‘Effect of Salt Spray on Behavior of Flexural and ILSS Properties of Composite Laminates’ authored by ‘M. C. Swami, B. M. Dabade’ was reviewed by experts in this research area and accepted by the board of committee of ‘Blue Eyes Intelligence Engineering and Sciences Publication’ which has published in ‘International Journal of Engineering and Advanced Technology (IJEAT)’, ISSN: 2249-8958 (Online), Volume-9 Issue-3, February 2020, Page No. 2834-2840.

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Jitendra Kumar Sen
(Manager)


Dr. Shiv Kumar
(CEO)

Effect of Salt Spray on Behavior of Flexural and ILSS Properties of Composite Laminates

M. C. Swami, B. M. Dabade

Abstract: — the objective of this paper was to determine the durability under accelerated salt-fog exposure of nine commercially available composites. These composites included glass reinforced vinyl esters, Iso Superior Glycol and an epoxy. Durability was measured mainly in terms of the loss of flexural strength and ILSS (inter laminar shear strength) after exposure. In order to accelerate aging, the specimens were subjected to temperatures of 95°F (35°C) for 552 Hours each while exposed to a salt-fog spray. A previous research had determined that among the common marine exposures, salt-fog was a major cause for degradation of composites used in the retrofit of the waterfront infrastructure. Flexural and ILSS tests were performed. Once the aging effects were determined, comparative study between these laminates will be done to find out which is the best Resin fiber compositions. To enable predictions beyond years, additional and longer lasting testing would be necessary.

Keywords : salt spray; Flexure; ILSS; Vinyl Ester; Iso superior glycol; Epoxy; Glass fiber.

I. INTRODUCTION

Composite structures used in the marine environment are subjected to environmental effects. Composite materials are being used in the rehabilitation and repair of Naval structures exposed to the marine environment. The use of composites for rehabilitation presents the following advantages: they possess high tensile strength, they are light, composites can be easily bonded to concrete, and they have superior corrosion resistance when compared to traditional construction materials, such as steel and aluminium. However, in order to evaluate the true cost of a specific type of composite, its durability must also be evaluated.

Previous researchers studied the effects of laboratory simulated marine climates on the mechanical properties of several commercial composites and found that, of all the previous exposures, seawater immersion and salt-fog exposure caused the greatest deterioration of the flexural and tensile strengths of the composites. In order to address the issue of long-term durability under salt-fog conditions, it was suggested that accelerated testing be conducted on the same fiber reinforced composites.

The Knowledge Gap:

A thorough review of the literature survey shows that the marine environment detrimental effect on composites.

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However owing to their recent discovery, not much research has been done on the effects of the fiber percentage on the mechanical performance of the polymer composites. Moreover, there exist very few literatures on the effect of glass fiber reinforcement percentage on commercially available polymer composites. A previous study had determined that among the common marine exposures, salt-fog was a major cause for degradation of composites used in the retrofit of the waterfront infrastructure.

II. OBJECTIVE OF RESEARCH WORK

The objective of this paper was to determine the comparative durability under accelerated salt-fog exposure of nine commercially available composites. These composites included glass-reinforced vinyl esters, Iso superior glycol and an epoxy. Durability was measured mainly in terms of the loss of flexural strength after exposure.

Keeping in view the above mentioned knowledge gaps, the following objectives were chosen for the present research project work.

- Fabrication of commercially available resin composites reinforced with matt glass fibers.
- Evaluation of mechanical properties such as flexural strength for these composites.
- To study the influence of fiber percentage on the mechanical behaviour of the composites.
- Accelerated aging of composites studied with help of salt spray done on composite samples.
- To study the influence of salt fog on the mechanical behaviour of the composites (ILSS i.e. inter laminar shear strength and Flexure property).

III. MATERIAL SELECTION AND METHODOLOGY

Factors influencing the Material Selection

- Mechanical properties.
- Availability.
- Environmental Stability.
- Ease of Manufacturing.
- Cost.

Selected materials are

1. Reinforcement Material

Plain weave Bi-Woven Glass Fabre, 300 GSM

2. Resin

Epoxy Resin + Hysol hardener

Vinyl ester Resin + MEPK hardener

Iso Resin + MEPK hardener