

# Sri Lanka FRP NEWS

..... Exploring new horizons in FRP

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## *From the Editor's Desk,*

### **At the outset, my Wished to all readers for “A Happy & Prosperous 2010”!**

I am extremely pleased to note the winds of positive change blowing across the island nation since June 2009.

The GDP forecast of 9% for 2010 augurs very well for growth of economy in Lanka. It is also heartening to note that banks have been showing increasing willingness to lend and that there is acceleration in opening of new branches across the nation with a view to extend reach to wide strata of society. The recent announcement by the International Monetary Fund (IMF) that it is sanctioning a loan of US\$2 billion to help reform the economy and bring it back on track bodes well for the global confidence in Lanka bouncing back on the economic front.



The emphasis on infrastructure and building/construction spending in the coming years by the Government is in line not only with that of other countries in South Asia, but with the rest of the world too. After all, infrastructure is the bedrock of growth of any economy - be it a developing nation or an industrialized country. **So what implication does this have for the FRP industry in Sri Lanka?**

There are a multitude of applications of FRP in the power/telecom/civil engineering and transportation sectors. Typical examples include gratings, manhole covers, ladders, small/large diameter pipes, cable trays, cross arms for electrical poles, tankers for potable water transportation etc. The same holds good for building and construction-FRP is ideally suited for doors/frames, overhead water tanks (atop buildings), loft tanks (in bathrooms), sanitaryware items (bath tubs, wash basins, kitchen sinks with drainboard), buried septic tanks, translucent roofing sheets, partitions, canopies, car sheds etc.

At the recent Asia Pacific Composites Trade Show in Singapore in October 2009, it was announced that Asia Pacific currently accounts for 40-42% of global composites usage and this would increase to 50% by 2015. All countries in the Region are contributing to this growth in its own small measure and this includes Lanka-after all it is a conglomeration of tiny drops that make the ocean!

For growth, what is required is strong self-belief and the “Yes, we can” conviction. Lanka is blessed with a judicious combination of feel-good factors: strong support by IDB to the industry, enthusiastic entrepreneurs keen to let their creating juices flow in conceptualizing new ideas in FRP and translating these to commercial end products, Government assistance in facilitating entrepreneurs to be trained in setting up small scale industries etc. Ultimately, it is the mushrooming of a horde of small scale industries churning out a variety of FRP products that provides fillip to self-employment and contribution to the nation’s GDP growth.

I am informed that the Inaugural issue of **Sri Lanka - FRP News** was received very well by the industry and Government alike. The fact that several leading dignitaries in the Government and IDB had their messages of goodwill and encouragement published in the inaugural issue bears ample testimony to the support that this endeavour is savouring in having the Government's blessing-vital ingredients for a concept to be sown and fructify in the coming years.

The intent of this Newsletter in creating a greater awareness of FRP and accelerating its growth in Lanka reminds me of the adage "A journey of a thousand miles begins with the first step" - we have already taken this step. Let us now work together in taking advantage of the enormous human resources, talent and Government support that Lanka possesses in enabling the FRP industry to scale greater heights!

Till the rollout of our next issue, Happy Reading!!

**S. Sundaram**  
(Honorary Editor)

**Sri Lanka**  
**FRP News**

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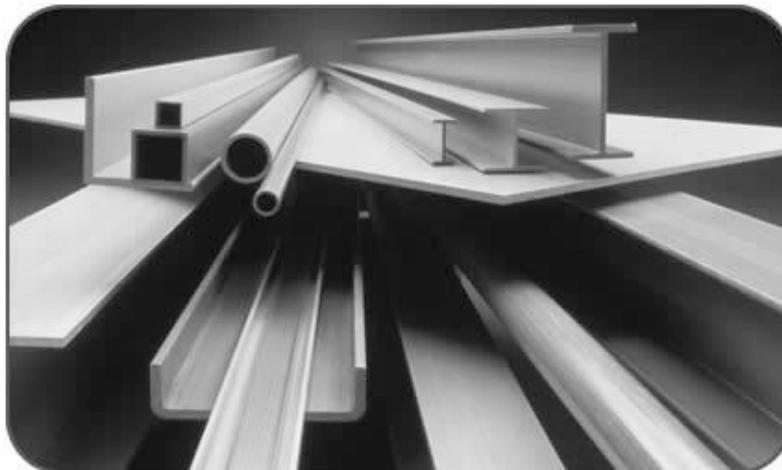
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## COMPOSITES-GLOBAL FACTFINDER

- ✿ China represents around 60% of the Asian Market for composites and has replaced Japan as the principal market for composites in the Asia Pacific Region.
- ✿ Per capita consumption of composites in Japan is 5kgs compared to average of 1 to 2kgs worldwide.
- ✿ BRIC countries (Brazil, Russia, China, India) account for a significant share of the worldwide composites industry. They accounted for 56% of the global growth in volume between 2002-2008 and should generate 58% of future growth by 2012-13.
- ✿ In the Wind Energy sector, players from the BRIC nations accounted for 18% of the global installed base of wind turbines in 2008 versus only 4% in 2005.
- ✿ Nearly 33% of the 8.6GW of wind energy generated in 2008 was installed in Asia. China doubled its installed capacity in 2008 by adding 6.3 GW to reach a total of 12.2GW.
- ✿ India installed 1800MW of wind energy in 2008, bringing the total to 9.6GW.
- ✿ Composites are used in a range of rail applications from cross ties to locomotive exteriors and passenger cabin interiors. Composite cross ties or “sleepers” are now a reality and a replacement for the traditional creosotetreated wood rail ties.
- ✿ In April 2009, China took over the mantle of the world’s largest car manufacturer from Germany and the U.S. Composites are poised to be used to a greater extent in all automobiles in the coming years due to lower weight achieved and the resulting fuel economy. A 10% reduction in vehicle weight results in a 6% increase in fuel economy.
- ✿ Building and Construction accounts for 29% of FRP usage in India followed by wind energy (23%), industrial (22%), rail transportation (15%), automotive (9%) and offshore/marine (2%).
- ✿ There is an increasing trend in the use of composite rebars in civil engineering construction in view of the significant advantages over traditional steel from viewpoint of corrosion and load bearing capabilities. There are currently several ASTM Standards available for guidance in use of FRP rebars.

## TECHNICAL TIPS

- ⊕ Combination mat (CSM + woven roving or chop roving + woven roving) offers dual advantage of reduced cycle time and cost when the thickness exceeds 2.7 to 3mm. This is because use of a single layer of combination mat replaces individual layers of CSM and woven roving. Resin consumption is also lower as impregnation of the combination mat is done in one go instead of impregnation of individual layers of CSM and woven roving. The higher the laminate thickness, the greater is the cost saving.
- ⊕ Stiffness of FRP products can be substantially increased in thin section by using sandwich construction through use of lightweight cores (polyurethane, PVC) between laminate skins or use of less expensive wooden/steel sections. The latter, no doubt, adds to weight unlike cores.
- ⊕ Air blow-out holes in moulds, increases mould life considerably.
- ⊕ Fire-retardant additives such as antimony trioxide affect the weathering characteristics of the moulded FRP product over a period of time.
- ⊕ Vinyl ester resins provide more flexibility and a low profile cure that avoids excess exotherm build-up compared to conventional unsaturated polyester resins.
- ⊕ Laminates made with vinyl ester resins display higher mechanical properties compared with those made with conventional unsaturated polyesters.
- ⊕ Coin tapping is simple inexpensive manual non-destructive test to detect presence of gross cracks or delamination in FRP composites. A clear sharp ringing sound is indicated in a well bonded solid laminate. A dull sound or thud indicates delamination or relatively small void area.
- ⊕ Composites made with phenolic resins display a significantly lower level of smoke generation compared to fire retardant polyesters. Toxic fumes emanation is also extremely low compared to unsaturated polyesters.



FRP Pultruded Sections  
Courtesy – S. Sundaram

One day Training Programme on Manufacture of FRP Products  
Training Calendar - 2010  
Technical Services Division

Month	Date
January	28
February	23
March	31
April	23
May	25
June	29
July	27

Fees: Rs. 1500 + NBT 3% + VAT 12% = Rs. 1732/-

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## **Fibretec, Lanka - spreading its wings through Innovation!**

Fibretec, a pioneer company in Matara, Sri Lanka, manufacturing decorative fiberglass products and having a workforce of nearly 200 young men and women today, was started by Dr. Hiran Abeysinghe in the year 1981, with just one employee. In 1992 it was awarded Pioneering Industry Status for the manufacture of decorative fiberglass wall pictures and lamp shades with inlaid natural flowers and foliage preserved against change of colour.



Dr. Hiran Abeysinghe

Amongst the other fiberglass industries in operation, Fibretec stands out for its individuality, creativity, perfection and quality of its products.

Special attention is paid from the inception of designing new products to making moulds for fabrication, colouring and finishing of the items. The performance of the products is taken into consideration by exploiting the properties of fiberglass to its fullest. By combining other technologies with fiberglass technology and with the artistic touch, Fibretec has been able to introduce value addition to its products and thereby has been able to penetrate into high-end niche markets both locally and abroad. Through their constant research and development programme, Fibretec has created unique designs which could be identified anywhere in the world.

Fibretec adopts a policy of providing total customer satisfaction by catering to customer requirements and needs. They also concentrate on after sales service to their customers which is also part and parcel of their services.

Fibretec is always keen to introduce new technologies to the markets. Recently, Fibretec has introduced digitally printed fiberglass sign boards which are more durable than the standard digital signs for exterior use.

The founder of Fibretec Dr. Hiran Abeysinghe completed his first degree in Chemical Engineering at the University of London. Later inspired by the rubber based industry in which his father was engaged in, he obtained a Masters Degree in Polymer Technology. He further broadened his horizons in this field by obtaining a PhD in fiberglass reinforced plastics in the UK. In spite of his academic achievements Dr. Abeysinghe chose to follow a field in manufacturing which gave him immense job satisfaction, where his inborn creative talents could be put to use. Through this he has been able to provide a number of job opportunities as well as make a valuable contribution to the economy by earning foreign exchange. We take this opportunity to appreciate Dr. Abeysinghe's dedication to this field and to congratulate him on his success.

*Frame your pictures through  
us and experience the difference*



*Personalise your gifts with sayings and  
verses of your choice inserted into  
decorative wall pictures which are inlaid  
with preserved natural  
flowers.*

*Your much-treasured  
wedding bouquet too could  
be preserved and framed.*



*Choose an exclusive collection  
of lamps and light fittings  
to beautify your home*

*Get them custom made to your requirement !*

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