

Indian Composites Industry - it's time to Act!

S Sundaram

I always experience a feel-good factor when writing a column about the Indian Composites industry-more so when it is in *FRP Today!*

Apparently a lot of changes have taken place since my last feature in 2008-the aftermath of the general elections, another term for the (stronger) incumbent Government and above all, a renewed thrust on *infrastructure*-the magic sector that is music to the ears of composites professionals worldwide and equally so in India.

The battered global economy is showing signs of recovery though economists the world over continue indulging in pet theories whether we have hit the bottom of the "U" or facing a "V" or even a "W" type recession. Mercifully, Asia has scraped through and more so India-thanks to its strong economic fundamentals and sound banking system, making it more insulated from the tremors of the West.

It has been a resurgent India that the world is witnessing since August 2009. Its entry into the elite G-20 group and the world's vocal expectations of India playing a more discerning role and emerging as a formidable positive influence, are significant. This has been substantiated by India's bold statements at the September summit on climate change in New York where the environment minister(Jairam Ramesh) pledged voluntary

curtailment of greenhouse-gas emissions in India to reduce carbon footprint and announced the introduction of fuel-efficiency cap on cars and trucks by 2011. This bodes well for composites and directly translates to greater use of FRP and is similar to the May 2009 ruling by the U.S. Government(Energy Independence and Security Act) that mandates trucks/SUVs/minivans to have a Corporate Average Fuel Efficiency(CAFÉ) of 27Miles per Gallon(MPG) and cars,39MPG by 2016. In fact, the CAFÉ standard will increase by 5% each year building on the new 2011 standard (27.3MPG) till 2016. *The thumb rule that a 10% reduction in vehicle weight yields a 6% improvement in fuel economy* is valid, irrespective of the country. It is perhaps time for automotive majors such as Tatas, Mahindras and others (who are already in the composites automotive sector) to pitch in with new (rapid) product development and increase the number of components in FRP for all types of vehicles. In fact, they should make a strong representation to the Government for direct/indirect fiscal incentives to encourage greater FRP usage to achieve targeted weight reduction *ala* those provided by the U.S. Government (through the Departments of Energy and Surface Transportation).After all, the aluminium and stainless steel lobbies in India have been doing it successfully for decades in promoting greater use



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of the metals in automotive and rail coach applications-so why can't the FRP industry take a leaf out of their book? Moulders, glass fibre/resin manufacturers along with (preferably) the Automotive Manufacturers' Association should come together and lobby on a common platform with the Government on the benefits of FRP and clamour for larger usage. It is an established fact that the net energy expended in manufacturing a product is least with FRP compared to aluminium and steel. I recall the various presentations in the 1990s that I had personally made to the Ministries of Energy and Transportation highlighting a list of about 10 components in FRP successfully used in buses (in India) that required less energy for manufacturing (vis-a-vis steel and aluminium) and justifying WHY they should make a recommendation to all State Road Transport Undertakings (SRTUs) from an energy conservation and fuel

economy viewpoint, to use FRP for the bus body components prototyped and tested successfully in service. The wheel obviously has turned full circle in the past 15 years, with the *Government itself now coming forward and making a commitment on fuel efficient vehicles!*

Asia will be the hub of automotive production in the next decade for obvious socio-economic reasons. The recent JEC show vindicated this aspect through interesting presentations. In April 2009, China took over the mantle as the world's largest car manufacturer and the mad scramble by auto majors in fortifying their manufacturing base there, coupled with local upstarts such as Geely, Chery and Dongfeng demonstrating annual growth rates in excess of 25%; speak volumes of the immense potential in the Region. Can India afford to lag behind? The answer is an emphatic *NO!*

Perhaps the biggest plus factor has been the foray into India in recent times by major resin players such as Ashland, Reichhold, AOC in establishing resin manufacturing plants locally. This should open up new vistas for applications where performance is a premium, apart from proven existing applications such as wind energy. FRP growth was partially hampered in yesteryears by resins produced in the SSI sector performing below par especially with respect to poor weathering resistance. Case in point is the translucent rooflight sheet market which, apparently, has witnessed steady decline over the years (with the glass fibres getting exposed within 6 months of installation due to poor UV resistance) and providing a classic example of the proverbial "killing of the goose that lays the golden eggs"! The final beneficiaries were competing materials such as PC and PVC sheets for similar applications. There have been several

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other FRP applications that fell by the wayside in a similar manner due to poor weathering aided by a generous (over)dose of fillers that further compounded the problems. Hopefully, the advent of quality resins, judicious use of fillers and technical services should set right the aberrations of the past. One should not lose perspective of *broadening the market base for successful, proven existing applications* in the short/medium term; whilst simultaneously focusing on long-term new applications.

India's announcement at the NYC September climate change summit that it would start implementing energy-efficient building codes from 2012 and mandate 20% of its energy from renewable sources by 2020 (the same target that the European Union has committed itself to) is a hallmark proclamation. The wind energy sector is already doing pretty well in clocking >25% annual growth. It's time to derive greater benefit from the tropical climatic conditions in India and harness the bountiful gifts-solar energy, bio-energy, wind energy etc. I recall FRP was used extensively in solar cookers and biogas plants in the 1980s-maybe a bigger thrust in these sectors is desirable once again to achieve the 2020 target and simultaneously provide the rural areas with clean cooking fuel (be it solar cookers or biogas burners).

While TIFAC has been doing great in promoting new applications in FRP through selective funding to entrepreneurs, it can definitely play a

greater role (as a Government body) in representing FRP's immense potential to the various Ministries (Infrastructure, Transportation, Energy, Defense, Industries/Chemical, Power & Telecom...) and garner support. This is of paramount importance if India is to narrow the gap with China (which currently accounts for 60% of Asian composites usage), since the Government is involved in some form either as a specifier or end user. Recall the Petroleum Act of 1957 that specified only mild steel as the material of construction for underground petroleum storage tanks and later amended to include alternate materials such as FRP in the 1990s-the rest is history and FRP is now an accepted alternate material for this application. The same approach is required for other industrial sectors referred above. Do remember that Asia will account for 50% of global composites usage by 2015 and India can/should play a major role in contributing to this growth. What is sorely lacking is an industry torchbearer who can spearhead acceleration of the composites growth in India. Will the Asian economic powerhouse that is India free itself from self-imposed shackles and launch an all-out growth offensive through a synergistic approach?

It's time to ACT!

Wishing readers A Happy and Glorious 2010 and the resurgence of the Indian Composites industry!!!
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