WinWinD: Wind energy solutions in Chennai, India

WinWinD is a Finland-based Wind Energy solutions provider and an established organization in wind energy across the globe, with installations in Finland, India, Sweden, Estonia, France, Portugal and Czech Republic. Performing Solutions interviewed Mr. G. Ravi, Assistant VP of WinWinD Power Energy, India, to learn more about its collaboration with Diab.

With a view to cater to the fast growingAsian markets, WinWinD has establisheda fully owned subsidiary with a productionfacility at Vengal, near Chennai in India.This manufacturing facility is designedand equipped for assembling nacelles and hubs, and production of rotor bladesand customized rotor blade moulds. Thefacility is also fully equipped for rigoroustesting of each manufactured part prior toinstallation.

Turnkey solutions

WinWinD's aim is to provide turnkeysolutions from concept to commissioningacross varied wind speeds and diversegeographies, with guaranteed uptime.This is accomplished through an advancedproduct suite of 1MW and 3MWwind turbine generators that are knownfor their reliability and efficiency at lowwind speeds. This efficiency and reliability resultsfrom constant design improvementsand continuous development, proficientassembly and manufacturing, as well ascompetent operation and maintenance.

High demands

WinWinD's relationship with Diab in India started with establishment ofWinWinD's production facility at Vengal.In first quarter 2008, during the initialrounds of production planning, Diab'steam was invited for discussions on corematerial supply for manufacturing of

rotorblades and moulds. From supplying thefirst custom-made core kit for rotor bladesto, now, supplying core materials in the form of *Divinycell H*, for mass production,Diab has been WinWinD's partnerof choice.

For wind turbine generators to excelacross varied terrains and wind conditions,it is essential to ensure that eachcomponent complies with uncompromisingquality standards throughout theguaranteed lifespan. WinWinD's WWD-1 employs the sophisticated EU 60 bladedesign which necessitates the rotor bladesto be lightweight, and, at the same time, strong and stiff. This combination of beinglightweight and, simultaneously, robustis attributed to the use of Sandwichcomposites.

Sandwich composites are employedas a norm when it comes to being lightweightand stiff. It ensures less vibrationand longer life for the rotor blades. Mostimportantly, it prevents the blade frombuckling, which is the central reason forreinforcement using foam core materials.

Diab – partner of choice

"Diab was named the primary supplier for core materials, *Divinycell H*, based on the fulfillment of stringent quality criteria that were set by WinWinD
in manufacturing rotor blades that were global-market ready. Diab's skill in delivering customized core kits, and the convenience with which supply and service logistics are executed, are factors that contributed to the company being selected as a supplier for rotor blade core material. The ease of retrieving core material and the flexibility Diab offered in supplying them are two inherent factors that cemented this partnership".

Says Mr. G. Ravi, who headsWinWinD Power Energy's blade production:"Diab proved to be the onlysupplier to fulfill all our objectives, andtheir response for any requirement isvery quick."

"Recently, when WinWinD hadproblems in Nacelle cover supply,Diab readily came forward to supplyDivinycell core materials as per our productionrequirements."

"We called Diab. Within one day, wehad a decision what to do. The next day anoffer was on the table, and on the third daywe went into production," says G. Ravi.

Partnering fortechnology transfer

While work was in progress to refineand perfect the manufacturing processat WinWinD's manufacturing facility inIndia, Diab was keeping close tabs withthe WinWinD team even on the productionshop floor, looking for options tostreamline the process and make it morecost effective.

One solution that came up was thesupply of custom-made core kits forthe Vacuum Assisted Resin InfusionMoulding (VARIM) process.

For this, the *Divinycell H* material usedin Blade manufacturing needs to betrimmed to the dimensions of the mouldprofile as per the design requirement. Inregular production units, this processof meeting the size and shape requirementsand preparing the *Divinycell H*sheets is done by an internal MaterialPreparation Department.

In order to save process time, it wasdecided to have customized Core Kitsof *Divinycell H*, according to the layupsequence. This option was discussed withDiab, and the officials were keen to deliverthe same to meet production requirements.The core kit was made and suppliedby Diab for the initial set of blades.

"Diab showed great flexibility inturnaround times and supply quantitieswhile ensuring and adhering to our qualityrequirements. They were quick to organizea custom delivery module

to meetWinWinD’s shop floor requisites. This optionto outsource is both cost-effective andconvenient,” says G. Ravi.

The support rendered to WinWinD byDiab has qualified the company as notjust the supplier for core material to manufacturerotor blades but also as a supplierof core material for the manufacture ofNacelle covers and rotor blade moulds.

“We at Diab look forward to a longtermassociation with WinWinD basedon the competence of both of our teamsand the excellent technology produced byWinWinD” says Gopish Kumar, NationalSales Manager at Diab India.

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