**Executive Summary**

With the growth of fiber reinforced composites in the Asian markets, the demand is high for cohesive and predictable polyester resin and vinyl ester resin systems. Quality infrastructure composite experience over the last 30 years has provided the steppingstones for new corrosion infrastructure applications that should be adaptable to the Asian market, and indeed, the global market.

Fiberglass reinforced underground gasoline storage tanks have been used successfully for the last quarter century. Power station intake and output pipes, some as large as 4.9 meters in diameter, continue to perform without problems. More recently developed composite products include short span bridges for handling regular road traffic, pedestrian bridges, sewer liners and water covers for water treatment plants.

Vinyl ester resin composites have achieved a remarkable degree of commercial acceptance in a variety of infrastructure applications. In the beginning, isophthalic resins such as Vipel® F701 and the robust version Vipel® F737, were widely used, but lately vinyl esters such as Vipel® F016 have played an important role.

Composite materials are formed by combination of two or more materials with different properties, without undergoing dissolution or blending into each other. Basically, one material is the matrix in which the other material is spread into the dispersed phase. Hence the resulting material has properties of both the parent materials. There are various types of composite materials such as Glass Fibre Composites, Carbon Fibre Composites, Natural Fibre Composites etc. The global composite industry is expected to grow at a CAGR of more than 7% during the upcoming years. The major market segment for composite industry remains the Glass fibre composite which have application in wind energy, construction, and infrastructure, automotive etc.

The wind energy industry is one of the fastest-growing consumers of fibre reinforced plastics in the world. Production challenges are compounded as the scale of wind turbines continues to climb. AOC produces a range of closed mould resins for wind blade composites, including bisphenol-A epoxy-based vinyl ester, isophthalic and orthophthalic polyester and general-purpose polyester. High-performance, high elongation vinyl ester resin provides the strength of epoxy and the cycle time of polyester.

Polyester and Vinyl Ester Resins are among the most commonly used matrix resins to create polymer composites. Vinyl ester formulations provide enhanced corrosion resistance and have a wide range of available strength, heat distortion, and shrinkage characteristics. The automotive and transportation industry is expected to drive the demand of composite materials. As the strength-to-weight ratio of most composites is higher than that of steel and aluminum. The chemical stands somewhere between polyester and epoxies in terms of price and mechanical properties.

Region wise, APAC holds the major share of Composite materials market. Major companies operating in composite industry are 3M, Dupont, Dit B.V., Composites Universal Group, Cabot Corporation, Mitsubishi Chemical Corporation, Owens Corning, Teijin Limited, Toray Industries, Inc.