

Supporting Information for SGL Carbon Fiber MTB responses

There are three duty suspension bills aimed at industrial grade carbon fibers, HR5160, HR5161, and HR5162. Each bill addresses specific precursors used in specific applications, consisting of 24k filaments, 50k filaments and 320k filaments. We understand that all MTB's must be non controversial, but now knowing that Hexcel Corporation has objected to these bills, this paper is intended to help better understand the bills submitted, and the US carbon fiber markets they serve. Hexcel has apparently objected to the bills based on the premise that they compete in these carbon fiber markets, and/or "could" potentially produce these types of precursor, and therefore compete with these carbon fibers in the US market. Hexcel produces precursor in the United States, which then is used for their carbon fiber products.

Hexcel produces PAN fiber precursor at their Decatur, AL site since the 1990's and use a singular production method known as air gap spinning. They spin fiber bundles in 3k filament bundles to be combined into precursor tow filament counts of 3k, 6k, and 12k. Air gap spinning produces a high quality precursor that can be converted into high performance carbon fibers aimed primarily at aerospace customers where the high performance of these type of fibers add value to the high priced composite part.

SGL focuses its efforts, and the precursor types included in these bills, on industrial grade applications such as wind energy and automobile light weighting. These applications are much lower value and require a different and much less expensive carbon fiber. Consequently, SGL utilizes a wet spinning process that allows higher filament counts to be spun at higher throughput rates than air gap spinning. Consequently, the 24k and 50k precursors are spun at those filament counts. To put these industries into perspective, the wind and automotive sectors, including pressure vessels, demand a carbon fiber selling price of less than \$11 per pound. Hexcel's markets are aimed at aerospace or high value applications where standard modulus fibers sell for prices greater than \$16 per pound and intermediate fibers sell for greater than \$35 per pound. SGL does not compete for any of this business as these applications are controlled by previous qualifications and are protected through the very high cost of re-qualification. In addition, Hexcel's cost to produce requires these high value markets as their costs using 3k air gap spun precursor are very high.

Hexcel can state that they could compete with SGL, Zoltek, Toho or any other industrial grade carbon fiber manufacturer, but their production methods and costs to produce do not make these markets feasible or accessible to them. SGL is focused on low cost, high volume carbon fiber applications where the price of the carbon fiber is more critical than the performance level of the composite part. Our target applications include building and bridge reinforcement, wind blade manufacturing, large volume SMC, compression molding and pre-form applications for all US and European automakers, high volume sporting goods such as softball bats and hockey sticks, aircraft

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and automotive brakes, marine, other alternative energy applications such as tidal energy and infrastructure applications such as high tension conductive cables. Hexcel's role in the wind blade market consists of selling pre-impregnated materials using fiber glass and not carbon fibers.

Therefore, in summary, these bills are not controversial. Hexcel does not produce these types of precursors, and also do not compete in their respective industrial grade carbon fiber markets either. As stated, we are trying to level the playing field for US carbon fiber manufacturers, who are currently at a severe disadvantage versus foreign importers of industrial grade carbon fiber, who can currently import their products duty free. With industrial grade carbon fiber being such a strategic growth-oriented product in the global marketplace especially in the automotive market, it is vital for US manufacturers to participate in future development and growth prospects. Within the SGL Group network of manufacturing, it is cheaper to import carbon fiber for US customers from Europe than to produce locally due to the import duty structure. This has clearly restricted our carbon fiber manufacturing growth plans in the US, and we have expanded elsewhere in the world.