



सीमाशुल्क अग्रिम विनिर्णय प्राधिकरण

Customs Authority for Advance Rulings

नवीन सीमाशुल्क भवन, बेलार्ड इस्टेट, मुंबई - ४००००१

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F.No. CAAR/CUS/APPL./137, 142/2025-O/o Commr-CAAR-Mumbai दिनांक/Date: 27.01.2026

Ruling No. & date	CAAR/Mum/ARC/141, 142/2025-26 dated 27.01.2026
Issued by	Shri Prabhat K. Rameshwaram, Customs Authority for Advance Rulings, Mumbai
Name and address of the applicant	Suzlon Energy Limited Corp. Office:- S. No. 170/1 to 8, One Earth, Sade Satra Nalli, Hadapsar, Haveli Taluka, Pune 411 028 {Email: foreigntrade@suzlon.com , umesh.apte@suzlon.com }
Concerned Commissionerate	1. The Commissioner of Customs (NS-V), JNCII, Tal- Uran, District, Raigad, Nhava Sheva, Maharashtra - 400 707, Email: commr-ns5@gov.in . 2. The Commissioner of Customs (Import), Air Cargo Complex, Sahar, Andheri East, Mumbai - 400099, Email: import.acc@gov.in

ध्यान दीजिए/ N.B.:

- सीमाशुल्क अधिनियम, 1962 की धारा 28I की उप-धारा (2) के तहत किए गए इस आदेश की एक प्रति संबंधित को निःशुल्क प्रदान की जाती है।

A copy of this order made under sub-section (2) of Section 28-I of the Customs Act, 1962 is granted to the concerned free of charge.

- इस अग्रिम विनिर्णय आदेश के खिलाफ कोई भी अपील ऐसे निर्णय या आदेश के संचार की तारीख से 60 दिनों के भीतर संबंधित क्षेत्राधिकार के उच्च न्यायालय के समक्ष की जाएगी।

Any appeal against this Advance Ruling order shall lie before the **High Court of concerned jurisdiction**, within 60 days from the date of the communication of such ruling or order.

- धारा 28-I के तहत प्राधिकरण द्वारा सुनाया गया अग्रिम विनिर्णय तीन साल तक या कानून या तथ्यों में बदलाव होने तक, जिसके आधार पर अग्रिम विनिर्णय सुनाया गया है, वैध रहेगा, जो भी पहले हो।

The advance ruling pronounced by the Authority under Section 28 - I shall remain valid for three years or till there is a change in law or facts on the basis of which the advance ruling has been pronounced, whichever is earlier.

- जहां प्राधिकरण को पता चलता है कि आवेदक द्वारा अग्रिम विनिर्णय धोखाधड़ी या तथ्यों की गलत बयानी द्वारा प्राप्त किया गया था, उसे शुरू से ही अमान्य घोषित कर दिया जाएगा।

Where the Authority finds that the advance ruling was obtained by the applicant by fraud or misrepresentation of facts, the same shall be declared void *ab initio*.



अग्रिम विनिर्णय / Advance Ruling

Suzlon Energy Limited (having IIC No. 2495002021) and hereinafter referred to as 'the applicant', in short) having registered address at Corp. Office S. No. 170/1 to 8, One Earth, Sade Satra Nalli, Hadapsar, Haveli Taluka, Pune 411 028, filed application (CAAR-1) for advance ruling before the Customs Authority for Advance Rulings, Mumbai (CAAR in short). The said application was received in the secretariat of the CAAR, Mumbai on 22.07.2025 along with enclosures in terms of Section 28II (1) of the Customs Act, 1962 (hereinafter referred to as the 'Act' also). The applicant is seeking advance ruling on the issue of applicable rate of Basic Customs Duty ("BCD") for import of "Carbon Pultruded Plates" in view of:

A. Sr. No. 405(5) of Notification No. 50/2017-Customs dated June 30, 2017 (as amended by Notification No. 5/2025 – Customs dated February 1, 2025); and/ or

B. Sr. No. 405(4) of Notification No. 50/2017-Customs dated June 30, 2017 (as amended by Notification No. 5/2025 – Customs dated February 1, 2025).

2. The applicant is a vertically integrated Wind Operated Electricity Generators ("WOEG") manufacturer. It also undertakes installation and O&M of all WOEG sales. The operations include design development and manufacturing of all major components, including Rotor Blades, Tubular Towers, Generators, Control Equipment, Gears and Nacelles. Apart from manufacturing, it offers a full gamut of wind project planning and execution services, including wind resource assessment, infrastructure and power evacuation, technical planning and execution of wind power projects. It also offers O&M services in India and overseas countries

2.1 In the context of WOEG, a Rotor Blade is a key component of the wind turbine's rotor system. It's responsible for capturing wind energy and converting it into rotational motion. The blades' shape, usually airfoil-like, is crucial for efficiently converting wind's kinetic energy into mechanical energy (torque).

2.2 In order to manufacture such Blades, the Applicant imports "Carbon Pultruded Plates" ("Plates") from foreign suppliers located across different countries. These plates, essentially in the form and nature of "Carbon Fibres", play a crucial role in the manufacturing process of wind turbine Rotor Blade, by serving as spar caps, which are the structural backbone of the blade. Made through pultrusion process, they provide exceptional strength, stiffness, and low weight, enabling engineers to design longer and more efficient blades.

2.3 The Applicant classifies Plates under Chapter Heading ("CTH") 68151900 of First Schedule of Customs Tariff Act, 1975 ("CTA"). The relevant part of CTH is extracted as under for reference:



Tariff Item	Description	Rate of Duty
6815	ARTICLES OF STONE OR OF OTHER MINERAL SUBSTANCES (INCLUDING CARBON FIBRES, ARTICLES OF CARBON FIBRES AND ARTICLES OF PEAT), NOT ELSEWHERE SPECIFIED OR INCLUDED	
	- Carbon fibres; articles of carbon fibres for non-electrical uses; other articles of graphite or other carbon for non-electrical uses:	
68151100	--Carbon fibres	10%
68151200	--Fabrics of carbon fibres	10%
68151300	--Other articles of carbon fibres	10%
68151900	--Other	10%

2.4 To provide impetus and encourage domestic manufacturing of WOE:G and its components such as Rotor Blades, the Government has offered several financial incentives in the form of Concessional Basic Custom Duty ("BCD") of 5% through Sr. No. 405 of *Notification No. 50/2017-Customs dated June 30, 2017* ("exemption Notification") to several goods/ items. Outlined below are the goods/ items on which such benefit is made available:

- a. **Prior to February 2, 2025:** The following goods were allowed concessional rate of BCD of 5%:

Table

Sr. No.	CTH/ Sub-CTH	Description of goods	Standard Rate
(1)	(2)	(3)	(4)
405	84 or any other Chapter	The following goods, namely:-	
		(1) Wind operated electricity generators upto 30 KW and wind operated battery chargers upto 30 KW	5%
		(2) Parts of wind operated electricity generators, for the manufacture or the maintenance of wind operated electricity generators, namely:- (a) Special bearings, (b) Gear box, (c) Yaw components, (d) Wind turbine controllers, and (e) Parts of the goods specified at (a) to (d)"	5%
		(3) Blades for rotor of wind operated electricity generators, for the manufacture or the maintenance of wind operated electricity generators	5%
		(4) Parts for the manufacture or the maintenance of blades for rotor of wind operated electricity generators	5%
		(5) Raw materials for the manufacture of	5%



3.1 The applicant has submitted that Carbon Fibres cannot be directly used in manufacturing Rotor Blades and have necessarily to be used in some shape and form (in the present case, Plates) in order for providing structural stability (amongst other things) for the blades.

Therefore, it is submitted that "Carbon Fibre" in the exemption Notification (as amended) cannot be construed in a narrow and restrictive manner but should be interpreted in a manner which upholds the intention of the legislature i.e., including "Carbon Fibre imported in any other form (in the present case, Plates)" imported for use in WOIGs.

Hence, the Applicant is eligible to claim the concessional rate of BCD on import of Carbon Pultruded Plates in terms of Sr. No. 405(5) of the exemption Notification (as amended).

3.2 The subject plates are embedded in Rotor Blades in such a manner that these cannot be easily removed at any given instance significantly damaging the blade's integrity which is not a feasible or safe process. Therefore, the Plates embedded in the Rotor blades become an inseparable part of the entire structure of WOIG;

As submitted above, processes such as loading, cutting, chamfering, stacking, infusion of resin, moulding, laying up on main girder etc. are merely undertaken on the Plates which neither alters/ transforms the basic structure of the Plates nor convert the same into a different product. These processes merely prepare it to be finally embedded on the Rotor Blades for its peak performance. Without such Plates, the Rotor Blade cannot function to its optimum capacity. Such Plates are used to achieve greater efficiency, reduce weight, and provide better design and aerodynamic profile. The Plates provide strength, rigidity, and durability to the working of Rotor Blade;

Therefore, in view of the above, it is submitted that the imported Plates are squarely covered as parts for manufacturing Rotor blades and the Applicant is entitled to claim the benefit of concessional rate of BCD in terms of Sr. No. 405(4) of the exemption Notification.

Port of Import and reply from concerned jurisdictional Commissionerate

4. The applicant in their CAAR-1 indicated that they intend to import the subject goods i.e. Carbon Pultruded Plates at the jurisdiction of Office of the Commissioner of Customs, NS-V, JNCH and Office of the Commissioner of Customs, ACC, Mumbai. The application was forwarded to the Office of the Commissioner of Customs, NS-V, JNCH for their comments vide letter dated 06.08.2025, 25.08.2025, 16.09.2025 and 16.10.2025, however, no comments were received from JNCH. The application was forwarded to the Office of the Commissioner of Customs, ACC, Mumbai for their comments vide letters dated 06.08.2025, 25.08.2025, 16.09.2025 and 31.10.2025. Comments were received from ACC, Mumbai vide letter dated 06.11.2025 wherein it is submitted that-

4.1 "Carbon Fibre" in Sr. No. 405(5) cannot be stretched to include articles thereof. Carbon Pultruded Plates, though made from carbon fibre, have acquired a distinct identity and fall



outside the limited wording of the entry. "Carbon Pultruded Plates" are not eligible for concessional BCD under Sr. No. 405(5) of Notification No. 50/2017-Cus.

4.2 Sr. No. 405(4) provides concessional BCD @5% to: "Parts for the manufacture or the maintenance of blades for rotor of wind operated electricity generators." The Applicant contends that Pultruded Plates are embedded in rotor blades as spar caps. These provide structural strength and stiffness, without which blades cannot function. The goods are specifically designed and manufactured for WOE:G rotor blades and have no alternate use.

Pultruded Plates are machine-specific and integral to rotor blade manufacture. They undergo only minimal processes (cutting, chamfering, stacking) before embedding. Once embedded, they cannot be removed without destroying blade integrity. Functionally, they are inseparable from the blade and critical for its performance.

The distinction between "raw materials" and "parts" is that raw materials undergo substantial transformation before becoming a part, whereas a part is already a functional component ready to be assembled. Pultruded Plates fall into the latter category. Therefore, Carbon Pultruded Plates qualify as "parts for the manufacture of blades for rotor of WOE:G" and are eligible for concessional BCD under Sr. No. 405(4) of Notification No. 50/2017-Cus.

Details of Hearing

5. Personal hearings were conducted on 08.10.2025 and 22.01.2026 in the office of CAAR. Shri Vivek Baj and Shri Sai Prasanna Dash, learned representatives, have appeared for the hearing and reiterated the contention submitted with the application that they intend to import "Carbon Pultruded Plates" for manufacturing blades of rotor of wind operated electricity generator (WOE:G). They explained the use of the said goods in manufacturing of WOE:G blades. They submitted a written submission against the query raised by the authority. They also submitted some photographs of the process/WOE:G blades. They sought specific clarification on the question that whether the subject goods i.e. Carbon Pultruded Plates would fall under the sr. no. 405(4) or sr. no. 405 (5) of the notification no. 50/2017-Customs dated 30.06.2017 (as amended) through notification no. 05/2025-Customs dated 01.02.2025 for the purpose of exemption.

5.2 Nobody appeared on behalf of the Department for hearing.

Discussion and findings

6. I have considered all the materials placed before me in respect of the subject goods. I have gone through the submissions made by the applicant during the personal hearing and comments received from the ACC, Mumbai Commissionerate. I proceed to pronounce a ruling on the basis of information available on record as well as existing legal provisions.

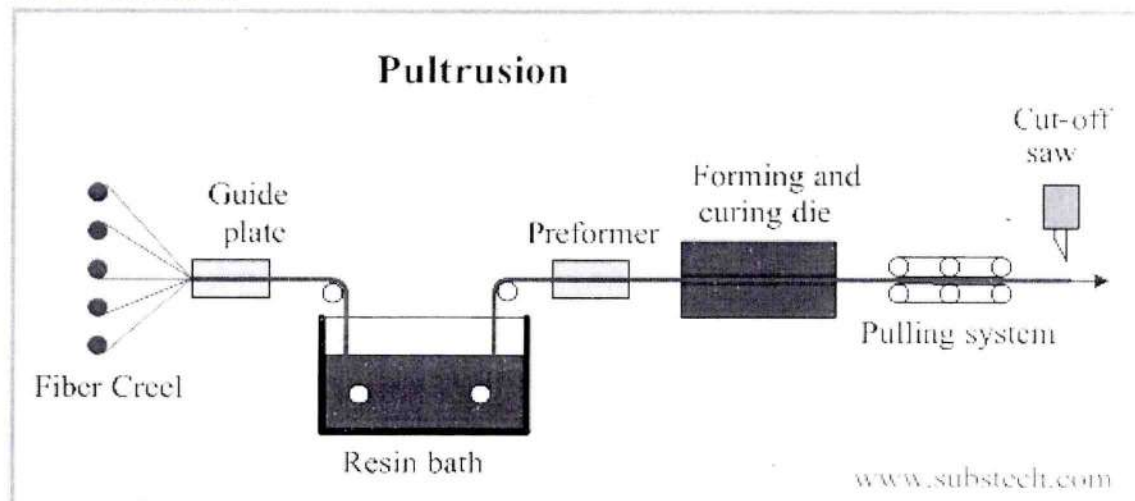


6.1 At the outset, I find that the issue raised in the question in the Form CAAR-1 is squarely covered under Section 28H(2) of the Customs Act, 1962, being a matter related to classification of goods and applicability of exemption notification under the provisions of this Act.

6.2 Before, deciding the matter of applicability of duty benefit, it is important to give a brief about the subject goods i.e. "Carbon Pultruded Plates". Carbon pultruded plates are made through the pultrusion process of carbon fiber. In the said process of pultrusion, "Carbon Fibre" is pulled through a resin bath and then cured into a desired shape (in the present case, Plates) for continuous production of high-strength, lightweight composite profiles with consistent properties. Outlined below are the activities involved in the Pultrusion process:

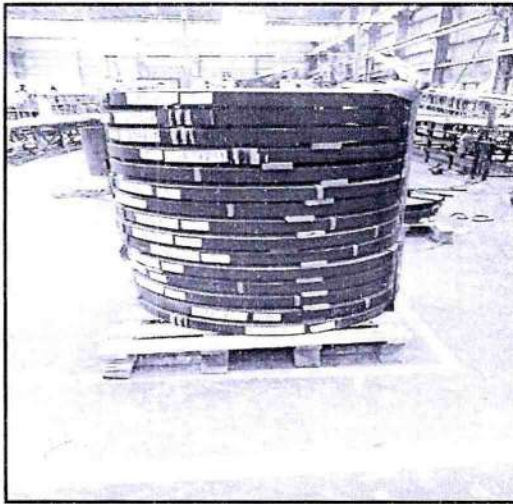
- a. Fiber Supply: Carbon fiber bundles (rovings or tows) are fed into the pultrusion machine.
- b. Resin Impregnation: The fibers are passed through a resin bath or impregnator, saturating them with the chosen resin (e.g., epoxy, vinyl ester).
- c. Pre-die Forming: The resin-soaked fibers are pre-formed into the desired shape (in the present facts, Plates) before entering the heated die.
- d. Pultrusion: The impregnated fibers are pulled through a heated, shaped die where the resin cures and solidifies, forming the composite profile.
- e. Pulling and Cutting: The cured profile (in the form of Plates) is pulled out of the die and cut to the desired length.

A schematic diagrammatic presentation of the above process is provided below, for case of reference:

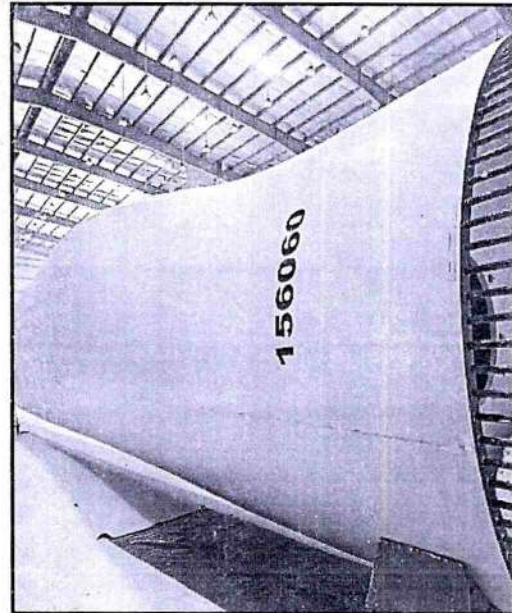
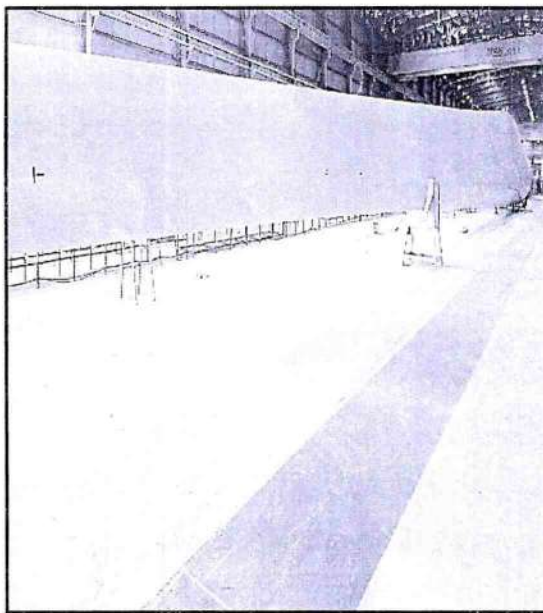


A perusal of the above process makes it evident that Carbon Pultruded Plates are formed with the help of Carbon Fibres in a pultrusion process (which is not a complex process and does not lead to any variation in the usage or functionality of such Fibre). In this process, neither a distinct/ new product is formed nor is there any alteration in the characteristics and traits of Carbon Fibres. Sample photographs of imported Plates and Blades are produced below, for better understating of the rationale for importing the Carbon Fibre in Plate form.

a. Carbon Pultruded Plates

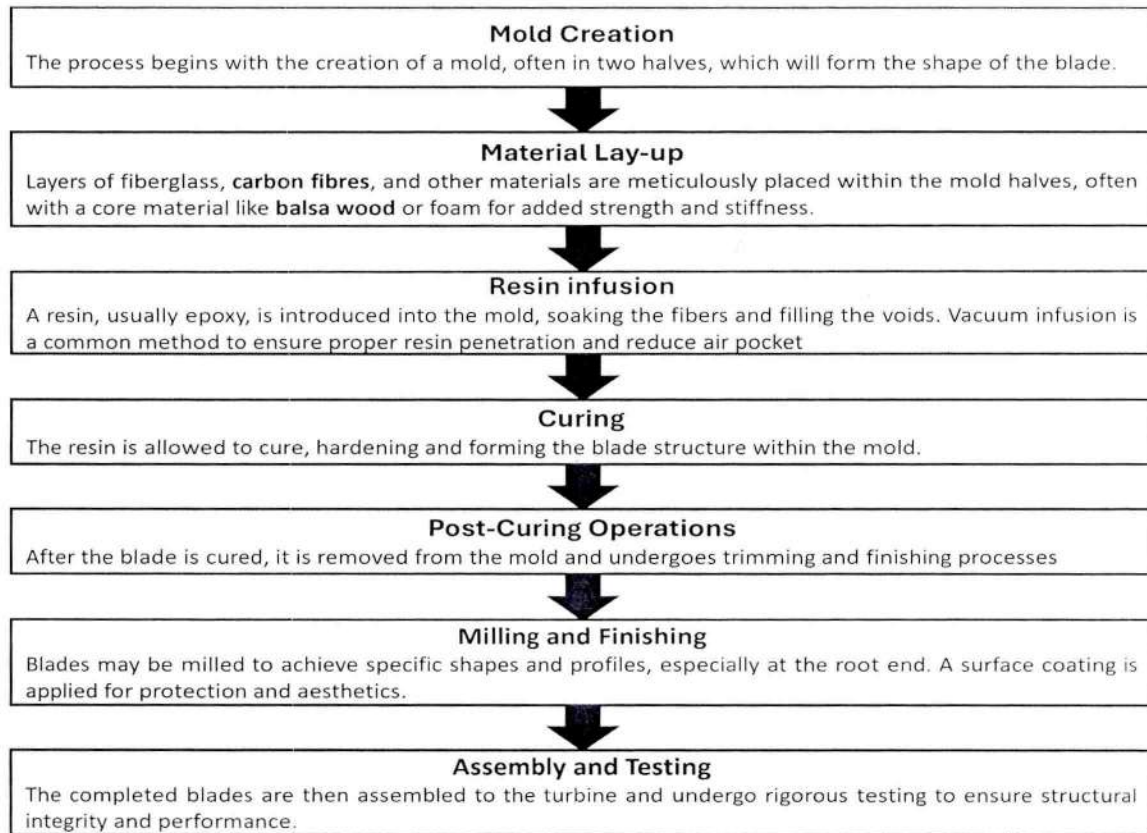


b. Rotor Blade



6.3 At the outset, in any WOEG, Rotor Blades are considered as the most crucial component as it is directly responsible for capturing wind energy and converting it into rotational motion which is used to generate electricity. While manufacturing such Rotor Blade, light weight, yet strong materials, such as “Carbon Fibre” is used featuring an airfoil shape similar to an airplane wing (i.e., Plate form) to maximize lift and rotation. These Carbon Fibre, play a crucial role in manufacturing Rotor Blades as they provide high strength and stiffness, and at the same time have weight reducing capabilities which help in providing stability and efficiency in functioning of such blade. Moreover, with the use of “Carbon Fibre”, blades acquire aerodynamical efficiency and can withstand extreme stresses. A detailed step wise

production process inter alia including the use of “Carbon Fibre” in the process of manufacturing Rotor Baldes is explained below for reference:



In the present case, the applicant is not using the carbon fibres but carbon pultruded plates are used in the manufacturing of the Rotor Blade of WOEG. These plates serve as a spar cap in the rotor blade which is structural backbone of the blade. Made through pultrusion process, they provide exceptional strength, stiffness, and low weight, enabling engineers to design longer and more efficient blades.

6.3 Now, I will discuss the classification of carbon pultruded plates. The relevant part of CTH 68151900 of First Schedule of Customs Tariff Act, 1975 (“CTA”) is extracted as under for reference:

Tariff Item	Description	Rate of Duty
6815	ARTICLES OF STONE OR OF OTHER MINERAL SUBSTANCES (INCLUDING CARBON FIBRES, ARTICLES OF CARBON FIBRES AND ARTICLES OF PEAT) , NOT ELSEWHERE SPECIFIED OR INCLUDED	
	- Carbon fibres; articles of carbon fibres for non-electrical uses; other articles of graphite or other carbon for non-electrical uses:	
68151100	--Carbon fibres	10%



Tariff Item	Description	Rate of Duty
68151200	--Fabrics of carbon fibres	10%
68151300	--Other articles of carbon fibres	10%
68151900	--Other	10%

Carbon Pultruded Plates are formed with the help of Carbon Fibres in a pultrusion process (which is not a complex process and does not lead to any variation in the usage or functionality of such Fibre. The essential character of the goods is that of an article of carbon fibre as the plates are comprises of carbon fibre (65-75%), Polymerized Resin (25-35%) and Kaolin Clay (0.5-1.5%) as submitted by the applicant vide their email dated 27.01.2026. They are no longer "carbon fibre" in raw filament form but finished articles ready for embedding in blades. Therefore, the subject goods are squarely covered under heading 68151900 as other articles of carbon fibre.

6.4 There are two scenarios on which the applicant has sought advance ruling. I will discuss each scenario and serial wise notification benefit applicability. In the first scenario, the Applicant submitted that prior to February 2, 2025, it was importing Plates by declaring them as "raw materials for manufacture of blades for rotor of wind operated electricity generators" and accordingly, was availing the benefit of concessional rate of BCD under Sr. No. 405(5) of the exemption Notification No. 50/2017-Customs dated June 30, 2017 which is as under:

Sr. No.	CTH/ Sub-CTH	Description of goods	Standard Rate
(1)	(2)	(3)	(4)
405	84 or any other Chapter	The following goods, namely:-	
		(6) Wind operated electricity generators upto 30 KW and wind operated battery chargers upto 30 KW	5%
		(7) Parts of wind operated electricity generators, for the manufacture or the maintenance of wind operated electricity generators, namely:- (a) Special bearings, (b) Gear box, (c) Yaw components, (d) Wind turbine controllers, and (e) Parts of the goods specified at (a) to (d)"	5%
		(8) Blades for rotor of wind operated electricity generators, for the manufacture or the maintenance of wind operated electricity generators	5%
		(9) Parts for the manufacture or the maintenance of blades for rotor of wind operated electricity generators	5%



		(10) Raw materials for the manufacture of – (a) blades for rotor of wind operated electricity generators, or (b) parts, sub-parts of such blades"	5%
...	...	...	...

From the above, it is clear that notification benefit is available to all raw materials for the manufacture of –

- (a) blades for rotor of wind operated electricity generators, or
- (b) parts, sub-parts of such blades"

But post amendment (w.e.f. 01.02.2025), Notification No. 05/2025-Cus substituted this entry as: "Balsa Wood, Carbon Fibre for the wind operated electricity generator blades". Thus, the scope of Sr. No. 405(5) was narrowed down by the amendment. Instead of generic "raw materials", only two items are now covered under sr. no. 5 of the column no. 3 pertaining to the description of subject goods i.e.: (i) Balsa wood (ii) Carbon fibre.

In the present case, the subject goods are Carbon Pultruded Plates, that is made from carbon fibre. Carbon Pultruded Plates are articles of carbon fibre and the applicant itself classified the subject goods under heading 68151900 as other articles of carbon fibre whereas the notification benefit is exclusively available to Carbon Fibre, not to "articles of carbon fibre". In trade parlance, "Carbon Fibre" refers to continuous filaments or tows, generally 5-10 microns in diameter, supplied as raw material. Pultruded Plates are significantly different — they are resin-impregnated, cured, cut, and dimensionally stabilized articles. Carbon Pultruded Plates, though made from carbon fibre, have acquired a distinct identity and would fall outside the ambit of "Carbon Fibre" as such under the entry description at sr. no. 5 in the said exemption notification.

Therefore, "Carbon Fibre" in Sr. No. 405(5) cannot be stretched to include the said articles. Hence, "Carbon Pultruded Plates" does not fall here for concessional BCD in terms of Sr. No. 405(5) of Notification No. 50/2017-Cus (as amended).

6.5 Now I will discuss the second scenario, in which the applicant submit that carbon pultruded plates are parts for manufacturing rotor blades and are accordingly eligible for concessional rate of duty under sr. no. 405(4) of notification no. 50/2017-customs dated 30.06.2017 (as amended). The relevant portion of the notification is reproduced as below:

Sr. No.	CTH/ Sub-CTH	Description of goods	Standard Rate
(1)	(2)	(3)	(4)
405		The following goods, namely:- (6) Omitted	



84 or any other Chapter	(7) Parts and sub-parts for the manufacture or the maintenance of wind operated electricity generator components, namely:- (a) Special bearings, (b) Gear box, (c) Yaw Components, (d) Wind turbine Controllers]	5%
	(8) Omitted	
	(9) Parts for the manufacture or the maintenance of blades for rotor of wind operated electricity generators	5%
	(10) Balsa Wood, Carbon Fibre for the wind operated electricity generator blades	5%
...	...	...

6.5.1 Now, before deciding the matter, I will distinguish the words “Parts” and “Raw Materials” as under:

Sr. No.	Dictionary	Parts	Raw Material
1	Cambridge	A separate piece of something, or a piece that combines with other pieces to form the whole of something; one of the pieces that together form a machine or some type of equipment	A substance in its natural state that will be used to make something else in an industrial process
2	Oxford	Part of something some but not all of a thing; a section, piece or feature of something; a piece of a machine or structure	Unprocessed material
3	Brittanica	One of the pieces, sections, qualities, etc., that make or form something; one of the pieces that are put together to form a machine	The basic material that can be used to make or create something



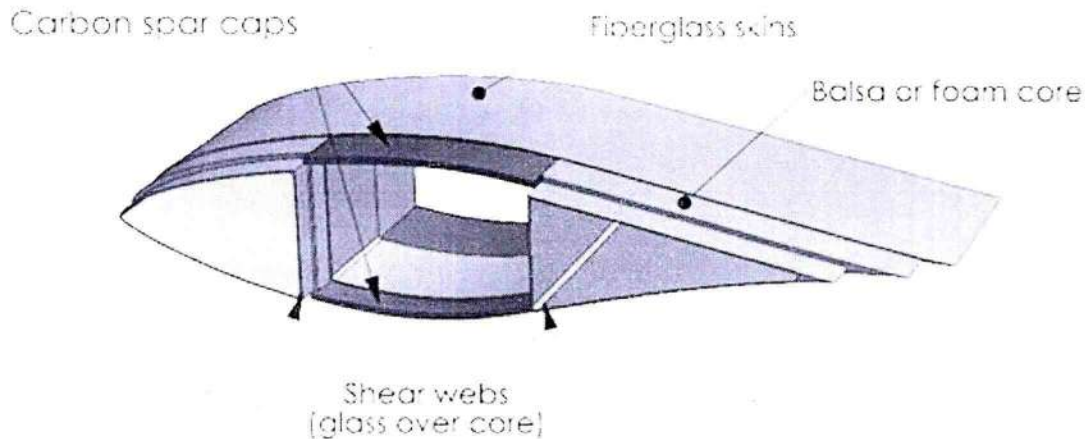
Sr. No.	Dictionary	Parts	Raw Material
4	Webster	One of the often indefinite or unequal subdivisions into which something is or is regarded as divided and which together constitute the whole	Crude or processed material that can be converted by manufacture, processing, or combination into a new and useful product

From a bare perusal of the above, it is evident that raw materials are those items which undergo substantive changes before transforming whereas a part in manufacturing activities signify one of the pieces that together form a machine or an equipment. It is observed that the imported Plates in the present case undergo mere cutting, chamfering and stacking processes in order to make it suitable for Blade shape and form as one of the essential components and not as raw material.

Certain queries were raised about the subject goods regarding their use and incorporation in blades. The applicant vide their letter dated 17.01.2026 submitted that carbon pultruded plates are typically used in spar cap and are the main load-carrying element in blades. Spar cap is made up of composites of carbon fiber i.e. carbon pultruded plates, with the help of epoxy resin through VARTM methods. These plates are integrated with glass fibre laminates and infused together with epoxy resin using the VARTM process. After resin infusion and curing, the plates, glass fibre and resin together form a single, inseparable composite structure called spar cap region. Once infused and cured, the plates loses its individual identity and become an integral, inseparable part of the blade. Carbon pultruded plates are not replaceable with any other material as they are chosen because of their high stiffness-to-weight ratio, which is critical for long blades. For large blades (>70 mts) carbon is very much essential for spar caps. Replacing carbon with glass or other materials will increase blade weight, which will affect fatigue life, tower and hub loads and energy efficiency.

6.5.2 Further, from the applicant's submission of facts, photographs etc., it is observed that the subject goods are used in manufacturing of rotor blades by serving as spar cap. Spar caps are long, narrow strips at the top and bottom of the blade's airfoil-shaped cross-section. They are typically embedded within the blade. Spar cap is a crucial, high-strength structural component in the top and bottom edges of wind turbine blades that carries primary bending loads, allowing for lighter, longer, and more efficient designs using materials like carbon fiber composites. Spar caps are the main load-bearing longitudinal reinforcement in a wind turbine blade. These are pultruded composite strips (often carbon fiber) placed at the top and bottom flanges of the internal blade spar to carry the primary bending moments. The inner construction of rotor blades consisting spar cap is shown below:





From the above photograph, it is evident that spar caps are integral part of a rotor blade and carbon pultruded plates are used in manufacturing of the spar cap therefore, it can be implied that the subject goods “carbon Pultruded Plates” are part of spar cap. Further, it is a settled principle of law that “a part of a part is a part of the whole” i.e., a sub-component of a component of a machine/apparatus is to be categorized as a component of the machine. The said principle has been upheld in the case of Collector of Central Excise v Mahendra Engg. Works [1993 (67) ELT 134 (Tribunal)] and Collector of C.Ex. Vs. MP (I) Ltd [1990 (46) ELT 68 (Tribunal)].

In the instant case, the “Carbon Pultruded Plates” are sub-parts meant to be used in manufacturing of spar cap and accordingly shall qualify as parts of rotor blade.

6.5.3 Key Functions of Spar Cap in Rotor Blades:

Load Bearing: The primary function of the spar caps is to bear the loads (both gravitational and wind-induced) that the blades experience. They ensure the blade maintains its shape and structural integrity even under extreme conditions.

Enhanced Performance: Carbon fiber’s high stiffness-to-weight ratio allows for longer, more slender blade designs without a proportional increase in weight. This results in more efficient turbines capable of capturing more wind energy.

Durability and Longevity: Carbon fiber is resistant to fatigue and corrosion, which helps extend the lifespan of wind blades, even in harsh weather conditions.

6.5.4 Advantages of Carbon Fiber Spar Caps



Increased Efficiency: Blades with carbon fiber spar caps can be made longer than those with traditional materials, like glass fiber, enhancing wind turbines' efficiency and energy output.

Weight Reduction: Carbon fiber is lighter than many other materials with comparable strength, leading to lighter blades that put less stress on the turbine's components, like the gearbox and bearings.

Improved Strength and Stiffness: Carbon fiber provides superior strength and stiffness, crucial for maintaining blade shape and performance, especially for larger turbines.

Design Flexibility: Using carbon fiber allows for more innovative and effective blade designs, accommodating the evolving needs of wind turbine technology.

6.5.5 Types of Carbon Fiber Spar Caps

The types of carbon fiber spar caps for wind turbine blades are generally categorized based on their structural design, the manufacturing process used, and the specific types of carbon fiber materials incorporated. Here are the primary variations:

1. Infused Spar Caps:

These are made using infusion techniques, where dry carbon fiber materials are laid into the mold and infused with resin under vacuum pressure.

Infusion can be cost-effective and suitable for large structures, but controlling the quality and consistency of the resin flow can be challenging.

2. Prepreg Spar Caps:

Made from pre-impregnated carbon fibers (prepregs), where the resin matrix is already applied to the carbon fibers in a controlled factory setting.

Offers excellent quality and uniformity with high strength and stiffness. The manufacturing process is cleaner and more controlled, but the material costs and required curing processes can be more expensive.

3. Pultruded Spar Caps:

Created through the pultrusion process, where carbon fibers are pulled through a resin bath and then through a heated die to cure.

Pultruded spar caps are continuous and can be made to various lengths. They offer consistent quality and are efficient to produce but are generally limited to simpler cross-sectional shapes.

6.5.6 Advantages of Pultruded Spar Caps



Efficient and Continuous: Pultrusion is highly efficient and can continuously produce long lengths of material.

High Strength and Consistency: The process yields products that are consistent in quality, with high strength and stiffness due to the alignment of the fibers.

Cost-Effective: Once set up, pultrusion is relatively low-cost for mass production, especially for standard profiles.

From the above, it can be observed that carbon pultruded plates are used as spar cap in rotor blade to provide greater efficiency, reduction in weight, better design and aerodynamic profile. The Plates also provide strength, rigidity, and durability to the working of Rotor Blade. Hence, it can be ruled that carbon pultruded plates are parts of rotor blade that are embedded in Rotor Blades in such a manner that these cannot be easily removed at any given instance significantly damaging the blade's integrity which is not a feasible or safe process. Therefore, the Plates embedded in the Rotor blades become an inseparable part of the entire structure of WOEg.

6.5.7 The imported plates are specifically designed for manufacturing Rotor Blades and are hence, parts:

- In this regard, reliance is placed on the judgment passed by Hon'ble Supreme Court of India in the case of *CCE Vs. Insulation Electrical (2008) 224 ELT 512 (SC)* which while defining the term "Parts" as "an essential component of the whole without which the whole cannot function", held that electrical insulators specifically designed for machines were parts, not raw materials, as they were integral to machine function;
- Reliance is further placed on the judgment passed by Hon'ble Supreme Court of India in the case of *Star Paper Mills Ltd. v. CCE (1989) 43 ELT 178 (SC)* wherein it was that only **machine-specific components** qualify as parts, distinguishing them from generic raw materials.

In view of the above, I am of the opinion that carbon pultruded plates are not the raw carbon fibre but these plates are indispensable parts of the rotor blade and the Applicant is entitled to claim the benefit of concessional rate of BCD in terms of Sr. No. 405(4) of the exemption Notification.

7. In view of the above discussions and findings, my answers in respect of the questions asked in the present application are as follows:

"Carbon Pultruded Plates" which are classifiable under CTI 68151900 of the Customs Tariff Act, 1975 with 10% BCD.

i. *Not eligible under Sr. No. 405(5) of Notification 50/2017-Cus, since that covers only raw carbon fibre or balsa wood.*



ii. Eligible under Sr. No. 405(4) as "parts for rotor blade manufacture", concessional BCD @5%.

8. I rule accordingly.

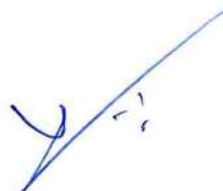
Prabhat K. Rameshwaram
27/11/26

(Prabhat K. Rameshwaram)
Customs Authority for Advance Rulings,
Mumbai.



This copy is certified to be a true copy of the ruling and is sent to:

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Dy. Commissioner & Secretary
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