

# Position

Lithium-ion cells and rules of origin in the EU's free trade agreements  
March 2020

Contact persons for this topic

Managing Director  
Dr. Kurt-Christian Scheel

Head of Department  
Dr. Karoline Kampermann

Ensure application of the tariff benefits from the agreements on electric and hybrid vehicles

The European Union's free trade agreements are of major importance to the German automotive manufacturers and their suppliers. Application of the agreements can enable import tariffs on vehicles and vehicle components to be avoided or reduced in the signatory states. At present, there are 42 free trade agreements (FTAs) in force between the European Union (EU) and 73 partner countries. The rules of origin in these agreements play the most important role for the automotive industry when it comes to classifying the goods produced in the EU for the tariff advantages resulting from the agreements. Complicated rules of origin that are associated with excessive bureaucracy and which cannot be satisfied are one of the main reasons for the low use rate of FTAs. The utilization rate could be greatly improved by anchoring simple and practicable rules of origin in FTAs in the future. This is true for passenger cars with internal combustion engines and even more so for battery electric and hybrid vehicles.

Status quo: electric and hybrid vehicles cannot satisfy the current rules of origin in the EU's FTAs

Over 75% of the electric vehicles built in Germany are exported, and currently almost 30% are destined for countries outside the EU. In view of the increasing demand for electric vehicles in the EU's FTA partner countries, it should be kept in mind that the rules of origin in the first-generation

free trade agreements (e.g. with Switzerland, South Africa, Mexico) in particular, but also in some second-generation agreements (e.g. with South Korea, Andean countries), do not take account of the actual economic circumstances in the EU. In the first-generation agreements on lithium-ion cells, for example, the level of EU value creation required to qualify lithium-ion cells as originating in the EU was set at 70%, or a change of tariff classification rule for all non-EU materials used in combination with an EU value creation of 60%.

However, the raw materials required for manufacturing the cells and the primary materials are currently not available in sufficient quantity or quality in the EU. This means that even if cells are produced in the EU, all the required production materials have to be imported from countries outside the EU. As, on average, the value of the imported materials constitutes 80% of the value of a finished lithium-ion cell, it is impossible to satisfy the above-mentioned rules of origin at this time.

In addition, using the cells within the EU to manufacture finished high-voltage batteries cannot generate sufficient EU value creation to define a high-voltage battery as originating in the EU, because the necessary production depth cannot be achieved.

This leads to the following situation: at present a maximum EU value creation of only 20% can be achieved because of the materials that are necessary. If EU production were to begin with the manufacture of electrodes and go all the way to high-voltage batteries, with the situation as it stands the maximum possible EU value creation would be 30%.

### Result: rules of origin for battery cells urgently need revision

As the maximum possible EU value creation is insufficient to qualify high-voltage batteries as originating in the EU under the EU's existing FTAs, the non-EU share of a high-voltage battery has to be taken into account negatively when calculating the preferential origin of an electric or hybrid vehicle. Given that the high-voltage battery constitutes the largest portion of the value of a vehicle (30% to 50%), this currently results in electric and hybrid vehicles not satisfying the rules of origin in most of the EU's free trade agreements, and therefore they cannot qualify for the tariff benefits from these agreements.

Therefore, in order to ensure that electric and hybrid vehicles, which make up an ever larger proportion of the auto makers' product portfolios, can benefit from preferential treatment under EU FTAs and thus enhance their international competitiveness, it is absolutely essential to revise the rules of origin in the EU's current and in future free trade agreements, such that electrodes, as part of an electric accumulator, and the resulting downstream products (battery cell, battery module and high-voltage battery) are classified as originating in the EU when they are produced in the EU.

Given that the major components of a battery electrode are currently not available in the EU and neither will they become available here in the near future, the following primary materials will still have to be procured from outside the EU:

#### Anode (HS-tariff item 8507 90)

- Copper foil with a thickness not exceeding 0.15 mm (HS-tariff item 7410 KN)
- Graphite preparation (HS-tariff item 3801 KN)

#### Cathode (HS-tariff item 8507 90)

- Aluminum foils with a thickness not exceeding 0.2 mm (HS-tariff item 7607 KN)
- Mixture of lithium, cobalt, nickel and manganese (HS-tariff item 3818 KN)

## Appeal 1: Introduce a change of tariff heading for HS-tariff item 8507 90

The above-mentioned primary materials do not represent any preferred goods originating in the EU and will not do so in the long term either, due to the lack of natural resources in the EU. Considering the preferential status of the intermediate products and possible developments in the field of electrode production in the EU, an electrode can therefore only acquire the status of originating in the EU if a change of tariff heading (CTH) is planned as the rule of origin for HS-tariff item 8507 90. The conditions of the rule are met if the coating of the aluminum and copper foils with the active materials is carried out in the EU as part of electrode production.

## Appeal 2: Alternative value-creation rule

As electrode production with foil coating is currently not carried out in the EU, and the creation of sufficient production capacities will take several years, we also advocate for a revised value-creation rule for lithium-ion accumulators of HS-tariff item 8507 60. In order to achieve originating status in the EU, it will be sufficient if the manufacture in which the value of all the non-originating materials used does not exceed 70% of the ex-works-price of the product. This already takes into account the fact that at present in the case of cell production in the EU, the non-EU share is 80%, and that this can be reduced to 70% by setting up new EU production facilities for aluminum and copper foils of the quality required for electric mobility during the coming years. If this becomes possible in the relevant capacities and volumes by the establishment and expansion of EU production, which is desired by the European Commission, the German Federal Government and the industry, a reduction of the non-EU share to 60% would be fundamentally conceivable in the long term.

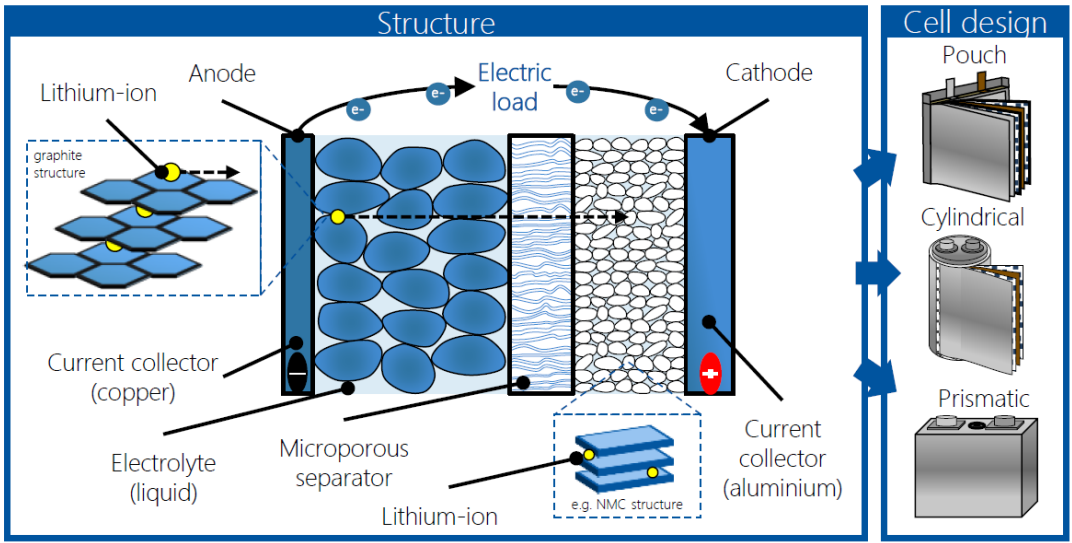
In order to deal appropriately with future developments in battery research, however, the HS-tariff item 8507 60 should not be the only item taken into account. For example, future breakthroughs in the use of solid electrolytes cannot be ruled out which could require classification under HS-tariff item 8507 80. In addition, nickel-metal hydride batteries are already being used for hybrid vehicles, which are classified under HS-tariff item 8507 50. Furthermore, an alternative value-creation clause for HS-tariff item 8507 90 will allow more flexibility regarding the various parts for the different batteries and offer potential for using suppliers' declarations *pro rata* in the future. These advantages are also significant in view of future developments based on battery parts. We are therefore appealing to be able to apply the alternative value-creation rule also to the above-mentioned tariff items.

In order to effectively address the uncertainties associated with this forecast, the proportion of value creation to be achieved should be reexamined either during the general evaluation of FTAs or at the earliest after 10 years. Any increase in the required proportion of EU value-creation should be based on consultations with the industry and a check that the relevant materials are available in the EU in sufficient quantity and quality.

## Conclusion

The gradual adaptation (as described above) of the rules of origin for electrodes as components of electric accumulators (HS-tariff item 8507 90 KN) would ensure that in the case of production within the EU, the coated electrodes would be defined as intermediate products for battery cells originating in the EU. As a consequence, the downstream products (battery cell, cell module and high-voltage battery) could, under application of the existing rules of origin of the EU's FTAs, also qualify as goods originating in the EU. The battery cells, the cell modules and the high-voltage battery could be included in full in the EU-value-creation of an electric vehicle, which would render it possible to achieve the value-creation targets at the vehicle level and to benefit from preferential treatment when imported in the FTA partner countries in the future.

**Operating Principle of a Lithium-Ion Battery Cell**  
 (Source: PEM of RWTH Aachen University & VDMA 2018)



Published by Verband der Automobilindustrie e.V. (VDA)  
Behrenstrasse 35, D-10117 Berlin  
[www.vda.de](http://www.vda.de)

Copyright Verband der Automobilindustrie e.V. (VDA)

Stand March 2020