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Total

December 2017

Independent assurance report on the award of the “Total Ecosolutions” label to the products “Azalt ECO² bitumen range (20/30, 35/50, 40/60, 50/70, 70/100, 100/150, 40/60 BTR and 160/220 BTR)”

ERNST & YOUNG et Associés



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Further to your request, we have performed a review in order to obtain reasonable assurance that the products “Azalt ECO² bitumen range (20/30, 35/50, 40/60, 50/70, 70/100, 100/150, 40/60 BTR and 160/220 BTR)”, a description of which can be found on the web site www.total.com¹ and in the external file dated December 8, 2017, have obtained the “Total Ecosolutions” label in accordance with the version 5 of the “Total Ecosolutions Guidelines” dated June 22nd, 2016 (hereafter referred to as the “Guidelines”); the Guidelines, which can be downloaded from the web site www.total.com¹, have been established on the basis of the ISO 14020 and ISO 14021 standards and were the subject of a preliminary external review which gave rise to the issue of an independent report on their design, this report also being accessible on www.total.com¹.

We conducted our review in accordance with international standard ISAE 3000 (International Standard on Assurance Engagements) defined by IFAC (International Federation of Accountants). It is the responsibility of Total to regularly update the Guidelines, to ensure that they are made available to internal users and third parties, and to apply the Guidelines. It is our responsibility to express, on the basis of our review, a conclusion on the award of the “Total Ecosolutions” label to the products “Azalt ECO² bitumen range (20/30, 35/50, 40/60, 50/70, 70/100, 100/150, 40/60 BTR and 160/220 BTR)”.

Nature and scope of our review

To express our conclusion, we performed the following review:

- We have assessed the reliability, accuracy, understandability, neutrality, completeness and relevance of the Guidelines and the constituents of the “Total Ecosolutions” label request file for products and services.

¹ Exact address: www.ecosolutions.total.com

- We have conducted interviews with the persons in charge of preparing the label request file, and analyzed the documentation available (aiming at justifying the methods of evaluation of the product's overall environmental impact and of the comparative performance evaluation with the reference product). We have also reviewed the meeting minutes and documents used during the validation process by the "Total Ecosolutions" Labelling Committee and the "Total Ecosolutions" Management Committee, in order to identify any risks of deviation in relation to the label award process defined in the Guidelines. However, the scope of our work did not include the verification of data used as sources for the calculation.

To conduct the aforementioned procedures, we called on members of our teams specialized in environment and sustainable development.

Information or explanations

- The Guidelines aim to define the rules for the award of the "Total Ecosolutions" label, the organization and responsibilities, the methods for assessing the level of environmental performance and verifying the compliance with the Guidelines, the internal and external communication procedures as well as the rules for document management, in accordance with the requirements of the ISO 14020 and ISO 14021 standards.
- The "Bitumen AZALT ECO²" products are ready-mix bitumen conceived for the manufacture of warm bitumen road materials. Those products are characterized by their ability to reduce the manufacturing temperature by about 40°C (or 20°C for BTR bitumen) compared to usual solutions of hot bitumen.
- Both environmental performance and resources consumption reduction assessments for "Bitumen AZALT ECO²" products have been performed through a quantitative and qualitative comparison for an equivalent service provided, with a reference bitumen with equivalent grades used for manufacturing hot bitumen.
- The comparative evaluation of the overall environmental impact of the "Bitumen AZALT ECO²" products relies on the data from an internal Life Cycle Assessment to quantify the decrease of greenhouse gases emissions, primary energy consumption and volatile organic compounds (VOC) emissions. VOC emitted during the production phase of the "Bitumen AZALT ECO²" have been quantified based on measurements carried out in situ during a road construction in France. The results are considered representative of the emission levels of the products of different range and applicable in other geographical locations of production. The life cycle assessment is based on process data collected in TOTAL refineries located in Europe. The downstream steps (related to the step of manufacturing the construction material) are not considered in the Life Cycle Analysis. This means that the decrease in energy consumption and in greenhouse gases emissions have been under-estimated.
- The functional unit considered is the "production of one metric ton of asphalt".
- The environmental benefit considered significant and validated by the CODIR Ecosolutions is
 - For the "Bitumen AZALT ECO²" products, on the whole life cycle (cradle-to-gate), a reduction of 9% of the primary energy consumption and of 10% of greenhouse gases emissions.



- For the "Bitumen AZALT ECO² BTR" products, on the whole life cycle (cradle-to-gate), a reduction of 2% of the primary energy consumption and of 5% of greenhouse gases emissions.

Conclusion

In our opinion, the "Azalt ECO² bitumen range (20/30, 35/50, 40/60, 50/70, 70/100, 100/150, 40/60 BTR and 160/220 BTR)" products have been awarded the "Total Ecosolutions" label, in all their significant aspects, in accordance with the Guidelines.

Paris-La Défense, December 19, 2017

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Cleantech & Sustainability

Christophe Schmeitzky