



## Explanations to the Verification Statement

### Brief description of the verification process

Wieland-Werke AG (hereinafter referred to as „Wieland“) has voluntarily entrusted TÜV SÜD Industrie Service GmbH (verification body) to carry out an independent (third party) verification of their declaration about the recycled content per mass balance approach of their product cuprolife® for the Vöhringen production site.

This review is based on the intended scope of assessment, the goals and criteria as agreed upon with the commissioning on 24 August 2022.

During 12 and 13 December 2022, the staff employed by the verification body carried out audits with representatives of the clients, document review and a site visit at the Vöhringen production site. The following installations were visited:

- Reception and storage of copper scrap, especially of the grade “Granulate 1/A”
- Tube drawing where the final product cuprolife® is produced

### Roles and responsibilities

The determination and communication of the recycled content are the sole responsibility of our client. Our role and responsibility as verification body was to independently verify the adequacy of the recycled content, as well as the underlying systems for data collection, analysis and control, in accordance with the requirements of DIN EN ISO 14021 and in particular chapter 6 (“Evaluation and claim verification requirements”) of this standard.

### Standard for the determination of the recycled content

DIN EN ISO 14021:2021-10 („Environmental labels and declarations – Self-declared environmental claims (Type II environmental labelling)“) and in particular chapter 7.8 („Recycled content“) of this standard as well as the mass balance methodology developed by Wieland

### Scope of assessment / System boundaries

#### Reviewed product:

This verification includes the production of the product cuprolife® at the Vöhringen site, which is a pipe with standardized dimensions for use in building services (sanitary, heating, drinking water). The product consists of 99.9% pure copper with a small proportion of phosphorus.

#### Production process:

For this purpose, Wieland uses the following input materials on **one** melting furnace route (consisting of three induction melting furnaces and a continuous casting plant with intermediate melt transport by transport ladle):

<b>Input materials:</b>	<b>Categorization according to DIN EN ISO 14021:</b>	<b>Included in mass balance:</b>
Primary cathodes	Primary material	No
Secondary cathodes	Pre- and post-consumer scrap	No
Tolling material	Pre-consumer scrap	No
Circulating scrap within the production site and/or the Wieland group	Pre-consumer scrap	No

Scrap from the free market (externally acquired): Casted, rolled and drawn wires, bare wires, extrusion scrap, Soudronic, swarf, overhead lines, Phosphoric scrap, sheets, tubes	Pre- and post-consumer scrap	No
Scrap from the free market (externally acquired): Copper scrap of the grade „Granulate 1/A“ (= shredded electronics wires)	Pre- and post-consumer scrap	Yes

The input materials are first sampled upon arrival at the production site as part of the quality management in order to ensure the required purity. Intermediate storage takes place in designated storage locations, which are physically separated from each other according to the type of scrap. Afterwards, the input materials are fed to the melting furnace as requested by the foundry management. The metal store has internal work instructions (600000\_D\_6620100) for the management and handling of the above listed materials. No other materials may be used. The Wieland-Junghans process provides a continuously casted thread, which is cut into billets. After an interim storage, those billets are reheated in a furnace in order to be processed into intermediate tubes in the subsequent extrusion. Then the drawing takes place in several steps until the tubes of the cuprolife® product have reached the desired dimensions and can be cut off accordingly.

The production process described here can be physically separated from the rest of the other processes and installations on site. The accounting boundary ends when the tubes of the cuprolife® product are ready for dispatch in the warehouse.

Definition "recycled material":

Based on the input materials listed above, Wieland defines the input material "Granulate 1/A" as an acceptable "recycled material" according to DIN EN ISO 14021. All other input materials are not considered as such. The granulate 1/A largely corresponds to shredded electronics wire, which is only purchased externally by cable dismantling companies and other scrap processors. This means that this scrap is produced after use (i.e., from household appliances or building demolition) (= "post-consumer scrap" according to DIN EN ISO 14021). However, it cannot be excluded with absolute certainty that the quantities purchased externally also include production scrap from processing and post-processing companies (e.g. wire drawing companies), which represents "pre-consumer scrap". However, since this scrap does not come from the same process (that means not the cuprolife® production process), but is obtained externally, it is also considered as recycled material. The exact separation between the types of origin before and after use is not feasible in reality, since exact traceability is not possible along the supply chain in the scrap market.

Within the requirements of the quality assurance, the granulate 1/A meets the impurity thresholds specified by Wieland for the cuprolife® pipes through other elements (Wieland material code: "K20"). Therefore, there is no need to increase the copper purity, e.g., with primary or secondary cathodes. Relevant evidence was presented during the audit.

Mass balance methodology:

The above-listed input materials are the basis for the mass balance. Wieland has a work instruction for this methodology in place (0010\_D\_276430800).

The primary requirement is that only as much cuprolife® pipe is produced as the amount of granulate 1/A is available and used. In reality, the above listed input materials are added in different proportions over time in the melting furnace. The mass balance approach is based on the assumption that the various partial amounts of granulate 1/A used over time could theoretically also be collected and processed in the production line in one defined batch. This means that the input material granulate 1/A could be completely physically assigned to the produced cuprolife® pipes. Since this batch-wise (per input material) production and tracking of the input materials throughout the production line has not yet been implemented in reality, the mass balance approach is used. The described assumption requires that it is theoretically possible to carry out batch-specific production and that at the end of an accounting period all partial quantities of used granulate 1/A are summed up, which constitute the maximum sellable amount of cuprolife® pipes after deducting production waste.

As part of the audit, technical evidence was presented that the production line and in particular the melting furnaces can be operated with only granulate 1/A (that means without adding other types of scrap).

In order to ensure that during an accounting period no more cuprolife® pipes are sold than quantities of granulate 1/A are fed to the melting furnace, Wieland has implemented appropriate control mechanisms. The reception, stock and use of the granulate 1/A in the material warehouse is monitored via the existing ERP system, and a separate article number is created for the cuprolife® pipes. Both quantities are compared internally on a monthly basis in order to be able to determine and correct an imbalance in the mass balance (step-by-step procedure: 1. Stop of sales, 2. Order cancellation, 3. Extension of the mass balance to other types of scrap, which also fall under the definition of recycled material according to DIN EN ISO 14021). Coordination between sales and procurement also takes place preventively. The total accounting period is 12 months. At the end of the accounting period, Wieland commits to have the mass balance verified by an independent third party.

#### **Intended users of this verification statement**

- Clients of Wieland-Werke AG
- Wieland-Werke AG itself in order to develop strategies and measures in the area of third-party revision of recycling
- Provision of this information upon request to third parties, such as banks and other external stakeholders

#### **Standard for the verification**

DIN EN ISO 14064-3:2019 ("Specification with guidance for verification and validation of GHG statements") adapted to the requirements of DIN EN ISO 14064-3:2019 („Environmental labels and declarations – Self-declared environmental claims (Type II environmental labelling)“) and in particular chapter 6 („Evaluation and claim verification requirements“) of this standard

#### **Objectives of the verification**

The verification was performed with due regard to our impartiality in a risk-based approach. Rational procedures were applied to reach reliable and reproducible conclusions. Within the scope of our audit, a sufficient amount of suitable evidence needed to be collected and explained in the audit by representatives of Wieland-Werke AG and its subsidiaries. This was to ensure sufficient traceability of the information presented with the declaration about recycled content.

## Criteria

The data review was conducted according to the following criteria:  
Relevance, completeness, accuracy, transparency of information and consistency.  
The assessment of alternatives according to the quantification model applied was carried out according to the principle of conservatism

## Agreed level of assurance

reasonable

### *Comment:*

*At a reasonable - but not absolute - level of assurance, we verify that the declaration on recycled content is substantially correct. This includes a review of the processes, data and evidence on their correctness and accuracy with an appropriately adequate sample size.*

## Materiality threshold

3 % for the total sum of the considered partial amounts according to the boundaries and cut-offs defined by Wieland-Werke AG

### *Comment:*

*The materiality threshold represents the degree of accuracy for our assessment of data gaps, misstatements and non-conformities remaining at the end of our review.  
Gaps, omissions, inaccuracies identified during the review that result in quantities greater than the established thresholds constitute a "material deviation", i.e. non-conformities, that must be addressed before a verification statement can be issued.*

## Methods of verification

- Interviews of responsible personnel of Wieland-Werke AG or its subsidiaries within the scope of audit
- Site visit at the Vöhringen site
- Review of the data and information systems and methodology for collecting, aggregating, analyzing and verifying the information used to determine the recycled content
- Sampling of data and evidence
- Strategic analysis and risk assessment on the recycled content
- Independent review (quality assurance by an auditor who is not involved in the verification process)

## Conclusions

With our review of the declaration on recycled content of the product cuprolife® of Wieland-Werke AG for the Vöhringen production site, we conclude, in all material respects, that the recycled content is determined fairly and factually in accordance with the selected criteria of the mass balance approach and the DIN EN ISO 14021:2021-10 standard.

Wieland-Werke AG has implemented suitable accounting methods, which enable the determination of the recycled content based on the considered input materials and sales quantities for the respective accounting period.



Our verification statement solely refers to the declaration on recycled content of the product cuprolife® of Wieland-Werke AG.

This statement is issued in accordance with the agreement reached with the client and within the framework of our validation and verification regulation. The results documented here are based on our internal documentation dated 29 March 2023 for this verification with project no. 3681385.