ISOTEC ENERGY TECHNICAL REPORT

Accredited Institutions and Laboratories for ZM / Magnelis Coating Composition Testing in Türkiye and Globally

This report is based on publicly verifiable accreditation information. Accreditation is always valid on a site-specific and method-specific basis; the current scope PDF must be obtained before placing an order.

Field	Value
Report No	Report 4/5
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Issued By	Technical evaluation prepared for ISOTEC Energy
Usage Note	This report has been prepared based on standards uploaded by the user, manufacturer publications, EN 10204 Type 3.1 certificates, and publicly available sources verified up to 16.04.2026.

Critical terminology note: "Magnelis" is a registered trademark. For technical accuracy, this study uses the generic expression "ZM (Zn-Al-Mg) coated steel" wherever possible; manufacturer-specific data are separately identified.

Executive Summary

- The statement "accredited laboratory" alone is not sufficient; for ZM composition testing, the relevant method and product matrix must actually appear within the laboratory's ISO/IEC 17025 scope.
- In Türkiye, the most clearly publicly verifiable body is TSE; the European Side Testing Laboratory's scope includes ASTM A754, ASTM B568, ASTM B487 and OES methods.
- Institutions such as Metaltek, Sarbak Metal and Yildiz Demir Celik have accreditation infrastructure; however, full method applicability for ZM coating composition must be separately verified through the scope document before placing an order.
- Globally, organizations such as Element, HTV Alter Technology, TAZ, Cortec Laboratories, Tec Eurolab, IMR and Malvern Panalytical demonstrate verifiable accreditation and service infrastructure in coating, corrosion and/or chemical analysis.
- There is no single fixed list of "all of them" worldwide; the correct approach is up-to-date laboratory verification through the ILAC MRA accreditation network and national accreditation directories.

1. Method Must Be Selected First, Then the Laboratory

Test Need	Example Required Method	Wording to Look for in the Accreditation Scope
Coating mass	ASTM A754 / EN 10346 Annex A	Metallic coating mass on steel sheet / XRF or gravimetric
Coating thickness	ASTM B568 / ISO 3497 / ISO 2178	Coating thickness by XRF / magnetic method
Cross-section thickness	ASTM B487	Microscopical examination of cross section
Base steel chemistry	ASTM E415 or equivalent OES	Carbon and low alloy steel analysis by spark OES
Corrosion testing	ISO 9227 / cyclic test / field exposure	Corrosion testing / salt spray / cyclic corrosion

Test Need	Example Required Method	Wording to Look for in the Accreditation Scope
Advanced coating chemistry	GD-OES / SEM-EDS / ICP-OES	Validated in-house method or specific scope description

Procurement rule: From the laboratory, it is necessary to request not only the accreditation certificate, but also the current scope of accreditation PDF showing the relevant method and matrix.

2. Publicly Verifiable Institutions and Laboratories in Türkiye

Organization	Accreditation / Verification	Publicly Observed Capability	Usage Note for ZM
TSE – European Side Testing Laboratory	The TSE laboratory network holds national/international accreditation	Methods such as ASTM A754/A754M, ASTM B487, ASTM B568, ASTM E415/E1085/E1086 are visible in publicly available scope summaries	Strongest candidate for coating mass, coating thickness, cross-section thickness and base steel chemistry
TSE – corporate laboratory network	According to the TSE service page, 23 testing and 3 calibration laboratories	General metallic coating and material verification infrastructure	City/site-based scope confirmation should be obtained
Metaltek	ISO/IEC 17025 accredited laboratory infrastructure publicly declared	80+ tests in metallic/inorganic/organic coatings, corrosion and durability tests	Strong candidate for corrosive testing and coating performance studies
Sarbak Metal Laboratory	TS EN ISO/IEC 17025 accreditation declaration publicly available	Analysis services and TÜRKAK assurance emphasized	ZM-specific method scope must be additionally reviewed prior to order
Yildiz Demir Celik Laboratory	TÜRKAK AB-1623-T certificate publicly available	Accreditation visible for paint/coil-coated metal testing	Method scope must be separately confirmed for direct ZM chemistry analysis

3. Examples of Publicly Verifiable Laboratories / Organizations Globally

Organization / Country	Accreditation Infrastructure	Publicly Verified Capability	Most Suitable Use Related to ZM
Element Amsterdam / Netherlands	ISO/IEC 17025 accredited corrosion testing services	Coatings and corrosion testing / global laboratory network	Corrosion performance verification and comparative tests
HTV Alter Technology GmbH / Germany	DIN EN ISO/IEC 17025	XRF metal layer thickness measurement; DIN EN ISO 3497 reference	Coating thickness verification
TAZ GmbH / Germany	DIN EN ISO/IEC 17025	GD-OES, XRF, SEM/EDX, metallography, hardness	Advanced coating chemistry and microstructure investigation
Malvern Panalytical analytical services / United Kingdom	ISO/IEC 17025 under UKAS	XRF testing services and analytical service infrastructure	Coating / composition supporting tests
Cortec Laboratories / USA	ISO/IEC 17025	Broad corrosion testing portfolio	Salt spray and specialised corrosion protocols
Tec Eurolab / Italy	UNI CEI EN ISO/IEC 17025:2018	Material testing and multi-material analyses	Mechanical + material verification
IMR Test Labs / USA	A2LA ISO/IEC 17025 chemical scope	Matrices such as coatings, carbon steel, low alloy steel, zinc alloys are visible	Base steel chemistry and coating chemistry related verifications

Organization / Country	Accreditation Infrastructure	Publicly Verified Capability	Most Suitable Use Related to ZM
EAG Laboratories / Global	Corporate ISO 17025 accreditations publicly available	Coating analysis services	Detailed failure analysis and coating characterization
SGS / Global Network	ISO 17025 infrastructure at many facilities	XRF and metal testing services available	Facility/site-level scope must be requested
Intertek / Global Network	ISO 17025 infrastructure at many facilities	Metallic coating and material testing infrastructure	Facility/site-level scope must be requested
Acuren / North America	ISO/IEC 17025 and NADCAP-supported in-house labs	Materials testing lab infrastructure	Mechanical/chemical verification and failure analysis

4. Global Accreditation Bodies and Directories – Verification Portals

Body / Portal	Role	How ISOTEC Should Use It
ILAC MRA Signatory Search	Lists national accreditation bodies and their links	Starting point for identifying which accreditation authority is valid in which country
TÜRKAK – e-Government accredited body search	Accredited body query in Türkiye	Search by organization name, accreditation no and scope keyword
UKAS directory	UK accredited body directory	Current scope verification for UK-based laboratories
DAkkS filtersearch	Germany accredited body scope search tool	Strong tool for GD-OES / XRF / coating labs in Germany
A2LA portal	USA-based accreditation scope portal	Access to detailed scope PDFs of US laboratories
IAS / other national directories	Additional accreditation infrastructure in some countries	The relevant national body must be consulted for each laboratory

5. Which Laboratory Should Be Chosen for Which Task?

- Coating mass and coating thickness: TSE or a laboratory with XRF/gravimetric scope should be preferred.
- Base steel OES verification: Laboratories strong in metal chemistry such as TSE, IMR, Tec Eurolab are suitable.
- Advanced coating chemistry (Mg/Al/Zn profile): TAZ or laboratories with GD-OES / SEM-EDS infrastructure should be preferred.
- Corrosive performance / pre-field qualification: Corrosion-focused laboratories such as Metaltek, Element, Cortec are suitable.
- If brand equivalence is in question, a two-stage study is required rather than a single laboratory: chemical profile + corrosion verification.

6. Documents to Request Before Placing an Order

- ISO/IEC 17025 accreditation certificate
- Current scope PDF showing the relevant methods
- List of instruments / methods to be used (XRF, OES, GD-OES, SEM/EDS, gravimetric, etc.)
- Measurement uncertainty and reporting format
- Sample preparation method and destructive-test information
- Written agreement on which method will be the arbitration method in case of dispute

The single most correct selection method: First write down the required test method; then choose the laboratory where that method is actually covered within the accredited scope. The institution name alone is not a sufficient criterion.

References

- TSE laboratory service pages and accreditation scope summaries; accessed 16.04.2026.
- TÜRKAK / e-Government Accredited Body Search portal; accessed 16.04.2026.
- Metaltek, Sarbak Metal, Yildiz Demir Celik publicly available accreditation / laboratory pages; accessed 16.04.2026.
- Element, HTV Alter Technology, TAZ GmbH, Malvern Panalytical, Cortec Laboratories, Tec Eurolab, IMR Test Labs, EAG, SGS, Intertek, Acuren – publicly available accreditation/service pages; accessed 16.04.2026.
- ILAC MRA Signatory Search, UKAS directory, DAkkS filtersearch, A2LA portal – verification portals; accessed 16.04.2026.