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CERTIFICATE OF CHEMICAL ANALYSIS No 11 – 25

**FERROSILICON INOCULANT WITH ADDITION OF STRONTIUM for X-Ray
Fluorescence spectrometries, wet-way and combustion analysis**

SPL S-6A (PT 33/9B)

CERTIFIED VALUES – Mass content in %wt.

Element	Value [%wt.]	Uncertainty [%wt.]
Si	69.8	1.1
C	0.0147	0.0062
Al	0.339	0.041
Mn	0.447	0.036
P	0.0274	0.0016
Cr	0.079	0.012
Ti	0.056	0.011
Ca	0.091	0.014
Sr	<i>0.81</i>	
Ba	<i>0.028</i>	

PARTICIPATING LABORATORIES:

ARCELORMITTAL Poland S.A., Poland
BAS RUDICE, Czech Republic
CELSA HUTA OSTROWIEC, Poland
COGNOR S.A. - Ferrostal Łabędy, Poland
ENVIFORM, Czech Republic
ESAB CZ, Czech Republic

HILGER, Czech Republic
SIJ METAL RAVNE, Slovenia
U. S. STEEL Košice, Slovakia
VÍTKOVICE TESTING CENTER, Czech Republic
VOESTALPINE STAHL, Austria
ZPS - SLÉVÁRNA, Czech Republic

Comments:

Value – reference value, s_M – standard deviation of intralaboratory means (* - result excluded as outlier)

U – Uncertainty of the reference value $U \geq \pm \frac{t_{5;0,05}}{\sqrt{n}} \cdot s_M$ in the sense of the ISO Guide to the Expression of the Uncertainty of Measurement (1993), dependent on the standard deviation of the laboratory results.

Certified fully compliant with the ISO 17034 definition of Reference Material – with the characterization for determining the property values and their associated uncertainties.

Intended for calibration, matrix-match verification and statistical process control of analysis. They may not substitute CRM in a statement of metrological traceability, method validation. They may be used for combustion and wet-way methods too.

Manufactured by crushing, sieving, and homogenizing the input material.

Supplied as 100g bottle.

Homogeneity (random and trend, within- and between- samples) was tested by various analytical techniques of adequate repeatability. Its uncertainty contribution, when statistically significant, was combined to the ultimate uncertainty statement. The RM are stable by a nature of material.

Characterised by results from SPL proficiency test **PT 33/9B** – X-Ray Fluorescence spectrometries and wet-way analysis, S on combustion analysers by IR absorption with measurements metrological traceabled to adequate CRM. Identity of PT participating laboratories is confidential.

Certified values in % m/m, tabulated below in bold, are robust means of a minimum five accepted laboratory means. They are rounded to the same digit as their uncertainty statement.

Uncertainty is expressed as a \pm half width interval combined from the standard uncertainty, expanded by the coverage factor $k = 2$ (corresponding to 95% level of confidence). It does not exceed 1,5 multiple of the typical uncertainty of the matching CRM.

Non-certified values in regular without the uncertainty statement do not meet the requirements for certification and are intended for the matrix information.

User instruction: the surface of the specimens and RM should be prepared in a similar manner in accordance with manufacturer's instructions of spectrometers.

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