

Certified Reference Material

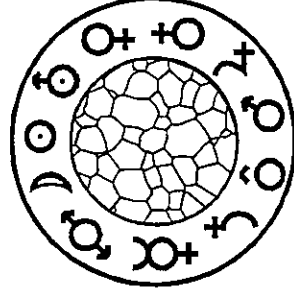
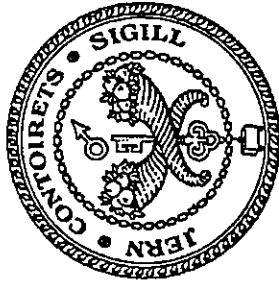
Jernkontoret Certificate

JK 14B

Ferrochromium (low carbon content)

Material supplier: AB Ferrolegeringar, Trollhättan, Sweden

Mass content in % (m/m)



Line Number	C	Si	Mn	P	S	Cr	Ni	V	Co	Cu	N	Zn
1	0.0191	0.630	0.283	0.0136		72.68	0.310	0.089	0.042	0.0085	0.0398	0.0142
2	0.0220	0.648	0.284	0.0137	0.0015	72.74	0.313	0.094	0.043	0.0086	0.0406	0.0144
3	0.0229	0.650	0.295	0.0138	0.0018	72.80	0.315	0.096	0.043	0.0092	0.0425	
4	0.0235	0.650	0.297	0.0140	0.0020	72.83	0.317	0.100	0.044	0.0093	0.0443	
5	0.0239	0.652	0.300	0.0144	0.0021	72.88	0.322	0.101	0.046	0.0094	0.0450	
6	0.0241	0.653	0.301	0.0147	0.0025	72.90	0.322	0.102	0.048	-	0.0450	
7	0.0247	0.663	-	0.0150	0.0030	72.95	-	-	-	-	0.0454	
8	0.0258	0.666	-	0.0150	-	72.96	-	-	-	-	-	
Certified value	0.0233	0.652	0.293	0.0143	0.0022	72.84	0.317	0.097	0.044	0.0090	0.0432	
Standard deviation	0.0020	0.011	0.008	0.0006	0.0005	0.10	0.005	0.005	0.002	0.0004	0.0023	

Participating laboratories ^{*)}

AB Ferrolegeringar, Trollhättan, Sweden
Avesta Jernverks AB, Avesta, Sweden
Fagersta AB, Fagersta, Sweden
Institutet för Metallforskning, Stockholm, Sweden
Outokumpu Oy, Torneå, Finland
AB Sandvik Steel, Sandviken, Sweden
SKF Steel Hellefors AB, Hellefors, Sweden
Uddeholm AB, Hagfors, Sweden

^{*)} The names of the laboratories are the original ones, which means their names at the time for certification in 1984.

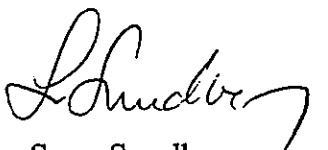
The Reference Material is prepared and issued by:

The Swedish Institute for Metals Research

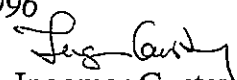
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Sven Sundberg
Technical Secretary
Chemists Committee
Jernkontoret

Stockholm, February 12, 1996


Ingemar Gustavsson
Chairman
Committee on Iron and Steel CRM
Swedish Institute for Metals Research

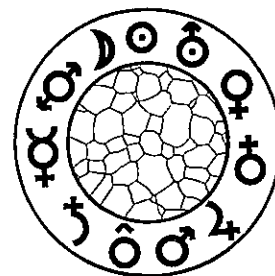
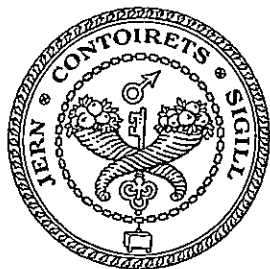
Certified Reference Material

Jernkontoret

Certificate

JK 14B

Ferrochromium (low carbon content)



JK 14B is available in the form of powder in bottles containing 100 grams.

Material supplier: AB Ferrolegeringar, Trollhättan, Sweden*

LABORATORY MEANS (4 values)

mass content in %

Line No	C	Si	Mn	P	S	Cr	Ni	V	Co	Cu	N	Zn
1	0.0191	0.630	0.283	0.0136	-	72.68	0.310	0.089	0.042	0.0085	0.0398	0.0142
2	0.0220	0.648	0.284	0.0137	0.0015	72.74	0.313	0.094	0.043	0.0086	0.0406	0.0144
3	0.0229	0.650	0.295	0.0138	0.0018	72.80	0.315	0.096	0.043	0.0092	0.0425	-
4	0.0235	0.650	0.297	0.0140	0.0020	72.83	0.317	0.100	0.044	0.0093	0.0443	-
5	0.0239	0.652	0.300	0.0144	0.0021	72.88	0.322	0.101	0.046	0.0094	0.0450	-
6	0.0241	0.653	0.301	0.0147	0.0025	72.90	0.322	0.102	0.048	-	0.0450	-
7	0.0247	0.663	-	0.0150	0.0030	72.95	-	-	-	-	0.0454	-
8	0.0258	0.666	-	0.0150	-	72.96	-	-	-	-	-	-
M _M	0.0233	0.652	0.293	0.0143	0.0022	72.84	0.317	0.097	0.044	0.0090	0.0432	-
S _M	0.0020	0.011	0.008	0.0006	0.0005	0.10	0.005	0.005	0.002	0.0004	0.0023	-

CERTIFIED VALUES mass content in %

Element	C	Si	Mn	P	S	Cr	Ni	V	Co	Cu	N
M _M	0.0233	0.652	0.293	0.0143	0.0022	72.84	0.317	0.097	0.044	0.0090	0.0432
C (95%)	0.0017	0.009	0.008	0.0005	0.0005	0.08	0.005	0.005	0.002	0.0004	0.0021

The traceability of the JK14B is ensured by the use of either stoichiometric analytical techniques or methods which are calibrated against pure stoichiometric metals or compounds.

Participating laboratories:

AB Ferrolegeringar, Trollhättan, Sweden
Avesta Jernverks, Avesta, Sweden
Fagersta AB, Fagersta, Sweden
Institutet för Metallforskning, Stockholm, Sweden

Outokumpu Oy, Torneå, Finland
AB Sandvik Steel, Sandviken, Sweden
SKF Steel Hellefors AB, Hellefors, Sweden
Uddeholm AB, Hagfors, Sweden

*The names of laboratories are the original ones, which means the names at the time for certification in 1984.

Stockholm, September 2003
Nordic CRM Working Group

Sven Sundberg
Research Manager, Jernkontoret

Ingemar Gustavsson
Chairman

The reference material is prepared and issued by: Swedish Institute for Metals Research (SIMR)



Certified
Institute



ISO 17025
Accredited
Laboratory

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