

EUROPEAN COAL AND STEEL COMMUNITY COMMUNAUTÉ EUROPÉENNE DU CHARBON ET DE L'ACIER EUROPÄISCHE GEMEINSCHAFT FÜR KOHLE UND STAHL

EURONORM-CRM (formerly EURO-STANDARD) No. **580-1** FERRO-CHROMIUM

CERTIFICATE OF ANALYSES

Laboratory Means (4 values)

Line No.	%C	%Si	%P	%Cr	%Co	%N	%V
1	0.0162	0.2860	0.0092	71.92	0.0370	—	0.0700
2	0.0168	0.2900	0.0092	72.01	0.0432	—	0.0738
3	0.0170	0.2925	0.0094	72.03	0.0437	0.0312	0.0755
4	0.0170	0.2928	0.0098	72.06	0.0442	0.0322	0.0762
5	0.0173	0.2940	0.0098	72.08	0.0442	0.0328	0.0805
6	0.0175	0.2965	0.0101	72.10	0.0445	0.0330	0.0818
7	0.0175	0.2978	0.0102	72.12	0.0450	0.0332	0.0820
8	0.0175	0.3012	0.0102	72.14	0.0453	0.0344	0.0822
9	0.0176	0.3018	0.0103	72.14	0.0455	0.0349	0.0830
10	0.0176	0.3048	0.0105	72.18	0.0458	0.0350	0.0832
11	0.0185	0.3050	0.0105	72.21	0.0462	0.0350	0.0835
12	0.0190	0.3050	0.0105	72.21	0.0469	0.0350	0.0835
13	0.0190	0.3068	0.0106	72.22	0.0470	0.0355	0.0838
14	0.0192	0.3083	0.0110	72.23	0.0470	0.0356	0.0840
15	0.0198	0.3100	0.0110	72.24	0.0472	0.0362	0.0840
16	0.0202	0.3150	0.0114	72.24	0.0472	0.0368	0.0850
17	0.0206	0.3150	0.0115	72.24	0.0480	0.0375	0.0852
18	0.0208	0.3175	0.0118	72.25	0.0501	0.0375	0.0872
19	0.0208	0.3188	0.0118	72.25	0.0525	0.0378	0.0882
20	0.0210	0.3198	0.0120	72.28	0.0528	0.0391	0.0912
21	0.0212	0.3200	0.0128	72.30	0.0557	—	0.0948
22	0.0218	0.3258	0.0129	72.41	—	—	—
M_M	0.0188	0.3057	0.0108	72.18	0.0466	0.0352	0.0828
s_M	0.0017	0.0112	0.0011	0.11	0.0039	0.0021	0.0056

M_M : Mean of the intralaboratory means s_M : Standard deviation of the intralaboratory means

CERTIFIED VALUES

	%C	%Si	%P	%Cr	%Co	%N	%V
M_M	0.019	0.306	0.011	72.18	0.047	0.035	0.083
s_M	0.002	0.011	0.001	0.11	0.004	0.002	0.006

Particle size 100-355 μ m

PARTICIPATING LABORATORIES

Arbed, Division d' Esch Belval, Esch-sur-Alzette, (Luxembourg)
 Bohler AG, Düsseldorf-Oberkassel (Germany)
 BSC Stocksbridge & Tinsley Park Works, Sheffield (UK)
 Bundesanstalt für Materialprüfung (BAM) Berlin Dahlem (Germany)
 Centre Technique Des Industries de la Fonderie (C.T.I.F.)
 Paris (France)
 Creusot-Loire, (Groupes Marine Schneider), Le Creusot (France)
 Gesellschaft für Elektrometallurgie, Nürnberg (Germany)
 Institut de Recherches de la Sidérurgie Française (IRSID)
 Maizieres-les-Metz (France)
 Institut de Recherches de la Sidérurgie Française (IRSID)
 St. Germain-en-Laye (France)
 Krupp Stahl AG, Bochum (Germany)
 London & Scandinavian Metallurgical Co. Ltd., Sheffield (UK)

Murex Ltd., Rainham (UK)
 Pattinson & Stead, Middlesbrough (UK)
 Ridsdale and Co. Ltd., Middlesbrough (UK)
 Societa Carlo Tassara, Breno (Italy)
 Société Cockerill, Seraing (Belgium)
 Societa Ferrolegha S.P.A. Avenza (Italy)
 Solmer, Fos-sur-Mer (France)
 Société Française D'Electrometallurgie (SOFREM),
 Le Fayet (France)
 Societe Nouvelle Des Acieries de Pompey (France)
 Thyssen AG, Duisberg 11 (Germany)
 Thyssen Edelstahlwerke AG., Forschungsinstitut,
 Krefeld (Germany)
 Ugine Aciers, Loudun (France)

For the Commission of Co-ordination of the Nomenclature of Metallurgical Products—Commission of European Communities.

For information regarding the EURONORM-CRMs, please refer to the ECSC Information Circular No. 1 available from the Institution responsible for standardization in your country.

Pour tous renseignements sur les EURONORM-MRC, se reporter a la Circulaire d'information No. 1 de la CECA, diffusée par les organismes nationaux de normalisation.

Wegen Erläuterungen über EURONORM-ZRM siehe Mitteilung Nr. 1 der EGKS, zu beziehen durch die nationalen Normenorganisationen.



BUREAU OF ANALYSED SAMPLES LIMITED

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METHODS USED
EURONORM-CRM 580-1

Element	Line No.	Method
C	1-3-13-17-19	Combustion, thermal conductivity
	2-4-5-7-8-9-11-14-16-20-21-22	Combustion, infrared absorption
	6-12	Combustion, non aqueous titration
	10-15	Combustion, coulometric
	18	Combustion, gravimetric
Si	1-2-4-5-6-8-9-10-11-12-13-15-17-18-19-20-22	Gravimetric, dehydration with perchloric acid
	3-7-14-16	Atomic absorption spectrometry
	21	Photometric as molybdenum blue
P	1-3-7-8-10-11-15-17-20-21	Photometric as phosphovanadomolybdate with extraction
	2	Photometric as silicomolybdate yellow
	4-9-13-16-22	Photometric as molybdenum blue
	5-6-12-18-19	Photometric as molybdenum blue with extraction
	14	Titrimetric as phosphomolybdate
Cr	1-7-9-10-12-13-14-16-20	Titrimetric with ammonium ferrous sulphate, potentiometric end point
	2-3-4-5-6-8-11-15-17-18-19-21	Titrimetric with ammonium ferrous sulphate, visual end point
	22	X-ray fluorescence spectrometry
Co	1-2-6-8-9-12	Photometric with nitroso R salt
	3-4-5-7-10-11-13-14-15-16-18-20-21	Atomic absorption spectrometry
	17	Photometric with 4- (chloropyridyl- 2-azo) m-phenylenediamine
	19	Photometric with 2-nitroso-1-naphthol
N	3-4-5-6-7-8-9-10-12-13-14-18-19-20	Carrier gas fusion, thermal conductivity
	11	Photometric with Nessler reagent, separation by distillation
	15-16-17	Acidimetric titration, separation by distillation
V	1-6-7-8-9-12-13-14-18-19-21	Atomic absorption spectrometry
	2-3	Titrimetric with ammonium ferrous sulphate
	4-11-17	Photometric with N-benzoylphenyl-hydroxylamine with extraction
	5-15	Photometric with 3,3' dimethyl naphthidine
	10	Titrimetric with ammonium ferrous sulphate, potentiometric end point
	16	Photometric as phosphovanadotungstate
20	Photometric with 3,3' hydroxy-2-methyl-1,4-pyron	