ECSC - CECA - EGKS

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

EURO - STANDARD No. 484-1 CAST IRON

CERTIFICATE OF ANALYSES

Laboratory Means (4 values)

Line No.	%C	%Si	%Mn	%P	%S	%Cr
1	3.172	—	—	0.1112	—	—
2	3.180	—	0.3826	0.1135	0.2140	0.1450
3	3.180	0.6760	0.3890	0.1145	0.2164	0.1488
4	3.182	0.6950	0.3898	0.1158	0.2182	0.1490
5	3.182	0.6982	0.3908	0.1158	0.2215	0.1508
6	3.183	0.7075	0.3912	0.1170	0.2230	0.1508
7	3.183	0.7110	0.3930	0.1175	0.2242	0.1525
8	3.183	0.7125	0.3935	0.1179	0.2272	0.1532
9	3.188	0.7140	0.3938	0.1188	0.2275	0.1533
10	3.189	0.7154	0.3942	0.1195	0.2289	0.1535
11	3.189	0.7162	0.3960	0.1208	0.2292	0.1538
12	3.192	0.7196	0.3962	0.1228	0.2293	0.1540
13	3.192	0.7218	0.3970	0.1230	0.2294	0.1552
14	3.212	0.7235	0.3975	0.1246	0.2320	0.1552
15	3.214	0.7255	0.3978	0.1246	0.2332	0.1588
16	3.227	0.7275	0.3980	0.1254	0.2345	0.1618
17	3.244	0.7275	0.3987	0.1255	0.2360	0.1628
18	3.252	0.7290	0.4000	0.1278	0.2365	0.1629
19	3.252	0.7340	0.4010	0.1289	0.2400	0.1630
20	3.265	0.7372	0.4050	0.1295	0.2425	0.1660
21	—	0.7375	—	—	0.2480	—
M_M	**3.203**	**0.7173**	**0.3950**	**0.1207**	**0.2296**	**0.1553**
s_M	**0.029**	**0.0155**	**0.0051**	**0.0054**	**0.0087**	**0.0057**

M_M: Mean of the intralaboratory means. s_M: standard deviation of the intralaboratory means.

CERTIFIED VALUES

	%C	%Si	%Mn	%P	%S	%Cr
M_M	**3.20**	**0.717**	**0.395**	**0.121**	**0.230**	**0.155**
s_M	**0.03**	**0.016**	**0.005**	**0.005**	**0.009**	**0.006**

Laboratories which have participated in the standardization of Euro-Standard 484-1

Arbed, Division d'Esch Belval, Esch-sur-Alzette (Luxembourg)
BCIRA, Birmingham (UK)
British Steel Corporation, Stanton and Staveley, Nottingham (UK)
Bundesanstalt für Materialprüfung (BAM), Berlin-Dahlem (Germany)
Centre Technique des Industries de la Fonderie (CTIF), Sevres (France)
Centro Sperimentale Metallurgico (CSM), Rome (Italy)
Cockerill, Seraing (Belgium)
Creusot Loire, Le Creusot (France)
Hoogovens-ESTEL, IJmuiden (Holland)
Institute for Industrial Research and Standards (IIRS), Dublin (Republic of Ireland)
Institut für Giessereitechnik, Düsseldorf (Germany)
Institut de Recherches de la Sidérurgie Française(IRSID), Saint Germain-en-Laye (France)
Laboratoire National d'Essais, Paris (France)
Leys Malleable Castings, Derby (UK)
Midland Research Laboratories, Dudley (UK)
Ridsdale and Co. Ltd., Middlesbrough (UK)
Société Metallurgique Hainaut Sambre, Couillet (Belgium)
Staatliches Materialprüfungsamt NW, Dortmund (Germany)
Stahlwerke Peine-Salzgitter AG, Salzgitter 41 (Germany)
Tubi Ghisa, Genova (Italy)
Usinor, Neuves Maisons (France)

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

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

Pour tous renseignements sur les Euro-échantillons-types, se reporter à la Circulaire d'information No. 1 de la CECA, diffusée par les organismes nationaux de normalisation.

Wegen Erläuterungun über Euro-Analysenkontrollproben siehe Mitteilung Nr. 1 der EGKS, zu beziehen durch die nationalen Normenorganisationen.

BUREAU OF ANALYSED SAMPLES LIMITED
Newham Hall, Middlesbrough, England. FEBRUARY, 1980

METHODS USED

ES 484-1

Element	Line Number	Method
C	1–4–6–7–17	Combustion, non aqueous titration
	2–12	Combustion, gravimetric
	3–9–15–20	Combustion, infrared absorption
	5–10	Combustion, conductimetric
	8–11–13–18	Combustion, thermal conductivity
	14–16	Combustion, coulometric
	19	Combustion, volumetric
Si	3–5–6–7–9–10–11–12–14–15–16–17–19–20–21	Gravimetric, dehydration with perchloric acid
	4	Titrimetric as fluosilicate
	8	Gravimetric, dehydration with hydrochloric acid
	13–18	Photometric as molybdenum blue
Mn	2–3–5–9–10–11–14–17–19–20	Photometric, oxidation with periodate
	4–6–8–12–15–16–18	Atomic absorption spectrometry
	7	Titrimetric with ammonium ferrous sulphate, oxidation with persulphate/silver nitrate
	13	Titrimetric with arsenite, oxidation with persulphate/silver nitrate
P	1–5–15–16–17	Photometric as molybdenum blue
	2–8–9–11–13	Titrimetric as phosphomolybdate
	3–4–6–10–18	Photometric as phosphovanadomolybdate with extraction
	7–19	Photometric as molybdenum blue with extraction
	12–20	Gravimetric as phosphomolybdate
	14	Photometric as phosphovanadomolybdate
S	2–7–8–15	Combustion, acidimetric titration
	3–5–9–13–19	Combustion, infrared absorption
	4–10–14–20–21	Combustion, oxidation/reduction titration
	6–12	Combustion, conductimetric
	11–16–18	Gravimetric as barium sulphate
	17	Combustion, thermal conductivity
Cr	2–17	Titrimetric with ammonium ferrous sulphate, oxidation with persulphate/silver nitrate, potentiometric end point
	3–5–11–12–13–19	Titrimetric with ammonium ferrous sulphate, oxidation with persulphate/silver nitrate
	4–6–9–10–14–15–16–18–20	Atomic absorption spectrometry
	7–8	Photometric with diphenylcarbazide