

# INDEX

ALUMINUM 2, 3, 4  
ALUMINUM IN XRF DISCS 15  
AUSMON 24, 25

BARIUM IN XRF DISCS 15  
BAUXITE 24  
BORON IN XRF DISCS 15  
BRASS 5  
BRONZE 5

CALCIUM IN XRF DISCS 16  
CARBONATE IN XRF DISC 16  
CAST IRON 9, 10  
CEMENT 24, 25  
CEMENT XRF DISC SET 16  
CERAMIC MATERIAL 5  
COBALT 5  
COPPER 5

ELEMENTS IN XRF DISCS 17

FLUORITE IN XRF DISCS 16

GLASS XRF DISCS AND PLATES 17

HIGH ALLOY STEEL 14

ILMENITE 24  
IRON 9, 10, 11, 12  
IRON ORE 24

LEAD 6  
LEAD IN XRF DISCS 17

MAGNESIUM 6  
MANGANESE ORE 24  
MINERAL SANDS 24  
MONAZITE 24  
MULTI-ELEMENT XRF DISCS 19

NEODYMIUM IN XRF DISCS 17  
NICKEL 7  
NICKEL ORE 24

PHOSPHORUS IN XRF DISCS 17

RARE EARTHS 24  
RoHS 7  
RUTILE 24

SETS 9, 10, 13, 14  
SILICA IN XRF DISCS 18, 24  
STAINLESS STEEL 14  
STEEL 11, 12, 13, 14  
SULFIDES 24

TIN 7  
TITANIUM 7

URANIUM IN XRF DISCS 18

WEEE 7

XENOTIME 24  
XRF DISCS 7, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

ZINC 8  
ZINC IN XRF DISCS 18  
ZIRCONIUM IN XRF DISCS 18

## PURITY ALUMINUM SETTING-UP SAMPLES

typical analysis listed in mass % except \* which is mg/kg

Number	Ag	As*	B*	Ba*	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga
PY 60548	<0.001	.	.	.	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.001
AL RC10/01	<0.0002	.	<2	<1	<0.0001	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	0.0002	0.001	<0.0002
V E10	<0.00005	.	<2	<3	<0.00002	<0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0004	<0.0005	<0.0001
R A 10	<0.0001	.	<2	.	<0.0001	<0.0010	<0.0001	<0.0005	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010
V E1/0	<0.00001	.	<2	<1	<0.00001	<0.00005	<0.0001	<0.00002	<0.00001	<0.00005	<0.0004	<0.0003	<0.00002
V E0	<0.00001	.	<0.4	<0.1	<0.00001	<0.00002	<0.00004	<0.00002	<0.00001	<0.00003	<0.00004	<0.00005	<0.00001
KUT Al 4N	.	.	0.6	.	0.00001	0.00001	0.00002	0.0001	.	0.00006	0.0025	0.0016	0.00005
IARM 220E	.	<1	<1	.	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0003	<0.0001
AL RC11/04	0.010	40	.	37	0.0019	0.0096	0.0021	0.0057	0.0012	0.009	0.015	0.047	0.020
AA SQ-10	.	.	.	.	.	.	.	.	.	.	.	.	.

Number	Hg*	In	Li	Mg	Mn	Mo*	Na	Ni	P	Pb	Sb	Si	Sn
PY 60548	.	.	<0.001	<0.001	<0.001	.	<0.001	<0.001	.	<0.001	<0.001	<0.01	<0.001
AL RC10/01	.	<0.0002	<0.0001	<0.0003	<0.0002	.	<0.0001	<0.0002	0.001	<0.0002	<0.0003	<0.002	<0.0002
V E10	.	<0.0002	<0.00002	<0.0003	<0.0001	.	<0.0001	<0.0001	.	<0.0002	<0.0003	<0.0010	<0.0003
R A 10	.	.	<0.0005	<0.0010	<0.0010	.	<0.0001	<0.0010	.	<0.0010	<0.0005	<0.0010	<0.0010
V E1/0	.	<0.00001	<0.00001	<0.0003	<0.00005	.	<0.0001	<0.00005	.	<0.00005	<0.0001	<0.0005	<0.00002
V E0	.	<0.00001	<0.00001	<0.00006	<0.00002	.	<0.00002	<0.00001	.	<0.00001	<0.00002	<0.00008	<0.00002
KUT Al 4N	.	.	0.00002	0.0015	0.0002	.	0.0001	0.00004	.	0.0001	0.0002	0.0013	0.00005
IARM 220E	<1	.	<0.0001	0.0002	<0.0001	<1	<0.0001	<0.0001	0.0001	<0.0001	0.0001	0.0003	0.0001
AL RC11/04	36	0.010	0.0006	0.017	0.016	250	0.0018	0.011	0.0026	0.0145	0.012	0.025	0.016
AA SQ-10	.	.	.	.	.	.	.	.	.	.	.	.	.

Number	Sr	Ti	V	Zn	Zr	Units
PY 60548	<0.001	<0.001	<0.001	<0.001	<0.001	60 mm Ø x 40 mm
AL RC10/01	<0.0001	<0.0002	<0.0002	<0.0005	<0.0002	60 mm Ø x 25 mm
V E10	<0.00005	<0.0001	<0.0002	<0.0003	<0.0001	60 mm Ø x 40 mm
R A 10	<0.0030	<0.0010	<0.0010	<0.0050	<0.0010	50 mm Ø x 50 mm Al: 99.99%
V E1/0	<0.00005	<0.0001	<0.00003	<0.0002	<0.00005	60 mm Ø x 40 mm
V E0	<0.00002	<0.00005	<0.00003	<0.00005	<0.00003	60 mm Ø x 40 mm
KUT Al 4N	0.0001	0.00006	0.0001	0.0003	0.00005	50 mm Ø x 35 mm
IARM 220E	<0.0001	<0.0001	0.0001	0.0002	0.0001	57 mm Ø x 38 mm
AL RC11/04	0.0040	0.016	0.017	0.018	0.016	60 mm Ø x 25 mm Ce: 0.0030 La: 0.014 Sc: 0.013 W: 0.005
AA SQ-10	.	.	.	.	.	64 mm Ø x 37 mm 1199 Alloy, no analysis issued

## POT METAL SETTING-UP SAMPLE typical analysis

Number	Base Metal	B	Li	Na	Units
AA SQ-18	P0506	0.02	0.02	0.02	64 mm Ø x 37 mm

## RARE EARTHS IN ALUMINUM SETTING-UP SAMPLE typical analysis

Number	Ce	La	Nd	Pr	Sm	Al	Units
R Al Ce/3	0.7	0.3	0.1	0.06	0.01	remainder	60 mm Ø x 40 mm

## SPECIALTY SETTING-UP SAMPLE typical analysis

Number	As	P	Sb	Sc	Units
AA SQ-19	0.03	0.014	0.02	0.20	64 mm Ø x 37 mm

ALUMINUM SETTING-UP SAMPLES, chart 1 of 2

typical analysis

Number	Si	Cu	Fe	Mg	Mn	Ni	Zn	Be	Ca	Cr	Na	Pb	Sb	Sn	Sr	Ti
C Al 4	18	0.01	5	<0.001	0.03	1.9	<0.01	.	0.009	.	.	<0.01	.	.	.	.
PY 9601	17.3	1.21	0.43	1.09	0.12	1.1	0.07	.	0.0026	.	0.0003	0.006	0.02	0.004	0.0058	0.08
R A 18	17.01	>8.35	0.51	0.23	0.36	2.8	0.28	<0.001	0.019	0.003	0.008	0.26	>0.58	0.21	0.08	<0.001
KUT ASC-1	14.0	6.0	1.6	1.2	0.4	0.6	0.5	0.003	0.02	0.2	.	0.1	0.02	0.1	0.03	0.5
R A 16	14	3.5	0.3	0.2	<0.01	2.8	0.3	<0.001	0.005	0.005	0.003	0.1	0.1	0.1	<0.01	<0.001
AL RC40/02	13.2	1.03	1.19	1.09	.	.	6.03	.	0.0131	.	.	0.10	.	0.21	0.14	0.20
PY 9327	12.8	0.01	0.15	0.003	0.005	0.003	0.01	.	<0.0007	.	<0.0004	0.001	<0.0003	0.0003	.	0.006
PY 9326	12.8	0.01	0.15	0.003	0.005	0.003	0.01	.	<0.0007	.	<0.0004	0.001	<0.0003	0.0003	.	0.006
AA SQ-15	12.0	0.5	0.7	1.2	0.05	2.5	.	.	.	0.05	.	.	.	.	0.02	0.1
PY 2150	10.6	0.6	.	0.9	0.4	0.5	1.2	.	.	0.06	.	0.8	.	0.3	0.1	0.3
PY 9521	10.4	0.015	0.13	0.18	0.005	0.003	0.024	.	0.0032	.	0.001	0.001	<0.004	<0.001	0.057	0.12
PY 9522	10.4	0.015	0.13	0.18	0.005	0.003	0.024	.	0.0032	.	0.001	0.001	<0.004	<0.001	0.057	0.12
V E3	10.0	4.0	.	.	.	1.0	.	.	0.009	.	.	0.4	0.3	.	.	.
164X ALSUS 8	9.5	0.75	0.25	0.9	0.45	0.12	0.25	0.015	<0.001	0.06	.	0.001	0.03	0.13	0.07	0.02
C Al 5	8.8	1.4	0.7	1.9	0.08	1.3	0.24	.	.	0.08	.	0.07	.	0.07	.	0.09
PY 9313	8.8	0.003	0.1	0.32	0.005	<0.002	0.01	.	0.0009	.	<0.0004	<0.0004	<0.003	0.0004	.	0.12
PY 2003	8.6	3	0.71	0.22	0.23	0.05	0.13	.	0.001	.	0.0003	0.07	.	0.012	.	0.08
PY 2001	8.5	2.9	0.7	0.22	0.23	0.05	0.13	.	0.002	.	.	0.07	.	0.012	.	0.08
PY 9915	6.9	0.007	0.11	0.31	0.002	0.002	0.006	.	0.0008	.	0.0002	0.001	0.12	<0.0005	0.0015	0.13
PY 9519	6.6	0.017	0.1	0.34	0.006	0.003	0.019	.	0.0045	.	0.001	<0.0001	<0.008	0.0004	0.053	0.12
PY 9520	6.6	0.012	0.1	0.34	0.005	0.003	0.017	.	0.0044	.	0.0005	<0.0001	<0.008	0.0004	0.052	0.12
PY 9517	6.4	2.8	0.48	0.3	0.25	0.02	0.2	.	0.009	.	0.001	0.02	0.01	0.01	0.014	0.13
PY 9809	5.5	.	0.5	.	.	1.9	.	.	.	.	.	.	.	.	.	.
PY 20001	5.4	3.1	0.48	0.23	0.22	0.03	0.14	.	0.0033	.	0.00004	0.01	.	0.01	.	0.07
AA SQ-16	4.0	10.0	1.0	0.3	0.2	0.2	0.2	.	.	.	.	.	.	.	.	.
V P-2	2.2	0.5	1.8	2.8	1.5	0.03	0.54	0.002	0.018	0.34	0.002	0.06	.	0.03	<0.0002	0.24
AJ RST600	1.5	0.5	0.6	1.3	1.3	0.05	0.3	0.005	0.002	0.3	0.001	0.05	0.04	0.05	(0.0005)	0.1
AL RC60/02	1.34	0.29	0.49	0.92	1.1	0.10	0.10	.	.	0.20	.	.	.	.	.	0.21
R A 19	1.33	0.69	1.24	8.03	1.02	0.65	7.36	0.005	0.001	0.17	<0.001	0.01	0.016	0.05	<0.003	0.20
C Al 2	1.205	0.0614	0.439	0.809	0.662	.	.	.	.	0.0036	.	.	.	.	.	0.052
KUT AMS-1	1.2	0.6	0.8	1.3	0.5	0.02	0.4	0.002	0.01	0.2	0.005	0.05	0.02	0.03	.	0.2
PY 1009	1.2	0.05	0.07	5.2	0.05	0.05	7	0.01	0.03	.	0.03	0.03	.	0.05	.	0.04
IARM 222A	1.1	4.9	0.9	0.2	1.1	0.3	0.3	0.003	.	.	.	0.1	.	0.1	.	0.2
IARM 222B	1.1	4.9	0.9	0.2	1.1	0.3	0.3	0.003	.	.	.	0.1	.	0.1	.	0.2
IARM 222C	1.1	4.9	0.9	0.2	1.1	0.3	0.3	0.003	.	.	.	0.1	.	0.1	.	0.2
IARM 222D	1.1	4.9	0.9	0.2	1.1	0.3	0.3	0.003	.	.	.	0.1	.	0.1	.	0.2
AA SQ-12	1.1	4.8	0.6	0.15	1.1	0.25	0.20	0.005	.	.	.	0.06	.	0.06	.	.
PY 2004	1.1	0.08	0.11	6.1	0.07	0.07	7.7	0.01	0.03	.	0.03	0.04	.	0.06	.	0.06
164X ALSUS 7	0.9	4	0.55	0.15	0.06	1.1	0.12	0.1	<0.001	0.01	.	0.11	0.12	0.01	0.003	0.3
V E2	0.9	0.20	0.9	0.20	0.18	0.20	0.10	0.004	0.006	0.05	0.008	0.10	.	0.19	0.11	0.20

Number	Si	Cu	Fe	Mg	Mn	Ni	Zn	Be	Ca	Cr	Na	Pb	Sb	Sn	Sr	Ti
Number	Ag	As	B	Bi	Cd	Co	Ga	In	Li	Mo	P	V	Zr	Al	Ø X H mm	
C Al 4	.	.	0.0008	.	.	.	.	.	.	.	.	.	.	75	50x30-50	
PY 9601	.	.	.	.	.	.	.	.	.	.	0.0086	.	.	.	50 x 50	
R A 18	<0.001	0.003	0.004	0.004	0.001	0.003	0.008	<0.001	<0.001	.	0.01	0.006	0.003	69.2	50 x 50	
R A 16	<0.01	.	0.006	<0.01	<0.01	<0.01	0.005	<0.001	<0.001	.	0.01	<0.001	0.002	Rem.	50 x 50	
KUT ASC-1	.	.	.	0.1	0.05	.	0.04	.	.	.	.	0.02	0.01	.	45 x 35	
AL RC40/02	.	.	.	.	.	.	.	.	.	.	.	.	.	.	60 x 25	Sc: 0.20
PY 9327	.	.	.	.	.	.	.	.	.	.	0.0017	.	.	.	50 x 50	
PY 9326	.	.	.	.	.	.	.	.	.	.	0.0017	.	.	.	50 x 50	
AA SQ-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	64 x 37	
PY 2150	0.9	.	.	0.02	.	0.04	.	0.06	.	0.04	.	0.02	.	.	60 x 40	
PY 9521	.	.	.	.	.	.	.	.	.	.	0.001	.	.	.	50 x 50	
PY 9522	.	.	.	.	.	.	.	.	.	.	0.0009	.	.	.	50 x 50	
V E3	.	.	0.01	.	.	.	.	.	0.007	.	.	.	.	.	60 x 40	
164X ALSUS 8	0.09	.	.	.	.	0.025	.	.	.	.	.	.	0.025	.	50 x 25	
C Al 5	.	.	0.0010	.	.	.	.	.	.	.	0.0050	.	.	85.3	50x30-50	
PY 9313	.	.	.	.	.	.	.	.	.	.	0.0011	.	.	.	50 x 50	
PY 2003	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50 x 50	
PY 2001	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50 x 50	
PY 9915	.	.	.	.	.	.	.	.	.	.	0.0001	.	.	.	50 x 50	
PY 9519	.	.	.	.	.	.	.	.	.	.	0.001	.	.	.	50 x 50	
PY 9520	.	.	.	.	.	.	.	.	.	.	0.0009	.	.	.	50 x 50	
PY 9517	.	.	.	.	.	.	.	.	.	.	0.002	.	.	.	50 x 50	
PY 9809	.	.	.	.	.	.	.	.	.	.	0.01	0.12	0.14	.	60 x 40	
PY 20001	.	.	.	.	.	.	.	.	.	.	0.001	.	.	.	50 x 50	
AA SQ-16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	64 x 37	
V P-2	0.0006	.	0.002	0.022	0.004	0.007	0.037	.	0.007	.	.	0.017	0.09	.	52 x 40	
AJ RST600	0.01	.	(0.001)	0.04	0.01	0.01	0.03	0.01	0.0001	.	0.002	0.02	0.04	.	55 x 30	
AL RC60/02	.	.	.	0.10	.	.	0.011	.	.	.	0.0045	0.11	.	.	60 x 25	
R A 19	0.19	.	0.001	0.18	0.013	0.35	0.08	0.13	0.01	.	0.002	0.11	0.13	77.97	50 x 50	
C Al 2	.	.	.	.	.	.	0.010	.	.	.	.	.	.	.	50x30-50	
KUT AMS-1	.	.	0.004	0.01	0.03	.	0.01	.	0.01	.	.	0.03	.	.	45 x 35	
PY 1009	.	.	.	.	0.01	.	0.03	.	0.01	.	.	.	0.04	.	60 x 40	
IARM 222A	0.2	.	.	.	0.2	0.02	0.06	.	.	.	0.003	0.1	0.2	.	63 x 39	
IARM 222B	0.2	.	.	.	0.2	0.02	0.06	.	.	.	0.003	0.1	0.2	.	63 x 39	
IARM 222C	0.2	.	.	.	0.2	0.02	0.06	.	.	.	0.004	0.1	0.2	.	63 x 39	
IARM 222D	0.2	.	.	.	0.2	0.02	0.06	.	.	.	0.003	0.1	0.2	.	63 x 39	
AA SQ-12	0.05	.	.	0.06	0.20	0.01	0.03	.	.	.	.	0.10	.	.	64 x 37	Hg: 0.01
PY 2004	.	.	.	.	0.02	.	0.03	.	.	.	.	.	0.02	.	60 x 40	
164X ALSUS 7	.	.	.	.	.	0.2	.	.	.	.	.	.	0.18	.	50 x 25	
V E2	0.23	.	.	.	.	0.04	0.06	.	.	.	.	0.10	.	.	60 x 40	
Number	Ag	As	B	Bi	Cd	Co	Ga	In	Li	Mo	P	V	Zr	Al	Ø X H mm	

## ALUMINUM SETTING-UP SAMPLES, chart 2 of 2

typical analysis

Number	Si	Cu	Fe	Mg	Mn	Ni	Zn	Be	Ca	Cr	Na	Pb	Sb	Sn	Sr	Ti
PY 9632	0.8	4.1	0.32	0.48	0.71	.	0.033	.	.	0.0181	.	0.0096	.	.	.	0.022
AA SQ-17	0.7	0.35	0.4	1.6	0.12	0.12	0.12	0.005	.	0.25	.	0.1	.	0.1	.	0.08
AL 6063/H1	0.64	0.105	0.360	0.93	0.159	0.052	0.105	.	.	0.041	.	0.0033	.	0.0027	.	0.105
BS 6061	0.55	0.29	0.19	0.81	0.010	0.004	0.04	.	.	0.050	.	0.010	.	<0.001	.	0.024
AA SQ-13	0.5	0.04	0.6	0.04	0.04	0.04	0.04	0.005	.	0.04	.	0.04	.	0.04	.	0.04
PY 906	0.40	0.005	0.19	0.43	0.03	0.005	0.019	.	.	<0.004	<0.0001	.	.	.	.	0.011
BS 2017	0.30	4.05	0.25	0.51	0.51	0.006	0.065	.	.	0.015	.	0.010	.	0.002	.	0.020
PY 327	0.23	0.16	0.35	1.18	0.93	0.004	0.016	0.00002	0.0011	0.025	0.0006	0.002	.	.	.	0.007
IARM 221C	0.2	0.6	0.2	4.8	0.4	.	6.8	0.005	0.03	0.2	.	.	0.01	.	.	0.1
IARM 221D	0.2	0.6	0.2	4.7	0.4	.	6.7	0.005	0.03	0.2	.	.	0.02	.	.	0.1
IARM 221A	0.2	0.6	0.2	4.8	0.4	.	6.7	0.005	0.03	0.2	.	.	0.01	.	.	0.1
IARM 221B	0.2	0.6	0.2	4.8	0.4	.	6.8	0.005	0.03	0.2	.	.	0.01	.	.	0.1
AA SQ-11	0.2	0.5	0.2	3.0	0.4	.	6.6	0.005	0.02	0.25	.	.	.	.	.	0.10
PY 9627	0.2	0.13	0.57	0.0004	1.06	0.01	0.057	.	.	0.0223	<0.00002	0.0065	.	.	.	0.022
PY 9628	0.19	0.12	0.53	0.0005	1.05	0.01	0.055	.	.	0.0227	<0.00002	0.0063	.	.	.	0.024
PY 310	0.16	0.0037	0.58	0.0003	0.0078	0.004	0.017	.	.	0.0028	<0.00002	0.0019	.	.	.	0.004
PY 309	0.13	0.0024	0.28	0.0004	0.0048	0.005	0.016	.	.	0.0028	.	0.001	.	.	.	0.005
PY 9325	0.11	0.0069	0.24	4.33	0.4	.	0.014	0.0001	0.0003	0.0007	<0.00002	0.007	.	.	.	0.005
PY 9324	0.11	0.0055	0.24	4.28	0.4	.	0.014	0.0001	0.0003	0.0007	<0.00002	0.007	.	.	.	0.005
BS 7075	0.10	1.40	0.13	2.26	0.03	0.005	5.6	.	.	0.19	.	0.003	.	0.001	.	0.028
AA SQ-14	0.1	0.5	0.1	0.9	0.4	0.4	1.2	0.002	.	.	.	0.5	.	0.1	.	0.1
PY 9630	0.1	0.062	0.46	0.0006	0.0123	0.008	0.054	.	.	0.0216	0.00003	0.0035	.	.	.	0.018
PY 325	0.1	0.003	0.27	0.74	0.005	<0.001	0.021	.	0.0011	0.011	0.0001	0.001	.	.	.	0.01
PY 9806-1	0.08	6.9	1.3	0.08	1.9	.	0.05	.	.	0.3	.	.	0.4	.	.	.
PY 9807	0.08	6.8	1.3	0.08	1.9	.	0.05	.	.	0.3	.	.	0.4	.	.	.
BS 2024	0.08	4.7	0.20	1.30	0.57	0.006	0.07	.	.	0.03	.	0.006	.	0.001	.	0.030
PY 9614	0.08	0.043	0.18	2.28	0.055	0.01	0.051	.	0.0009	0.21	0.00006	0.0057	.	.	.	0.019
C Al 3	0.08	0.004	0.17	2.8	0.215	0.002	0.007	.	.	0.001	.	0.002	.	0.002	.	0.009
PY 9321	0.07	4.2	0.013	0.27	0.02	0.01	0.04	.	.	.	<0.00002	0.001	.	.	.	0.21
V P-3	0.07	0.02	5.8	0.003	0.04	0.003	0.008	.	0.0002	0.001	.	0.03	0.0002	0.007	.	0.004
BS 2011	0.052	5.2	0.32	0.016	0.010	0.004	0.024	.	.	0.001	.	0.56	.	0.001	.	0.006
PY 9401	0.04	1.58	0.12	2.29	0.01	0.007	5.84	.	.	0.006	<0.00002	.	.	.	.	0.032
AL RC20/02	0.029	6.0	0.061	0.29	0.24	1.45	0.24	.	.	.	.	0.41	0.20	0.051	.	.
V E8	0.012	0.020	0.014	0.005	0.006	0.004	0.005	0.001	0.004	0.005	.	0.003	0.010	0.003	0.002	0.004
V E5	.	.	.	4.8	1.3	.	.	.	.	.	.	.	.	.	.	.
V E4	.	.	.	1.1	0.7	.	5.2	.	.	0.2	.	.	.	.	.	.
V E13	.	.	4.8	.	.	.	.	.	.	.	.	.	.	.	.	.

Number	Si	Cu	Fe	Mg	Mn	Ni	Zn	Be	Ca	Cr	Na	Pb	Sb	Sn	Sr	Ti
PY 9632	.	.	.	.	.	.	.	.	.	.	.	0.033	.	.	.	50 x 50
AA SQ-17	.	.	.	0.08	.	.	0.03	.	.	.	0.03	.	.	.	.	64 x 37
AL 6063/H1	.	.	.	.	0.0026	.	.	.	.	.	0.0205	0.0194	.	.	.	60 x 25
BS 6061	.	.	.	0.006	.	.	.	.	.	.	0.01	<0.002	.	.	.	62 x 50
AA SQ-13	.	.	.	0.04	0.04	0.01	0.03	.	.	.	0.04	0.4	.	.	.	64 x 37
PY 906	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50 x 50
BS 2017	.	.	.	0.002	.	.	.	.	.	0.007	0.002	.	.	.	.	62 x 50
PY 327	.	.	.	.	<0.0001	.	.	<0.0001	.	.	.	.	.	.	.	50 x 50
IARM 221C	.	.	.	.	.	0.2	0.03	.	.	.	.	.	.	.	.	63 x 39
IARM 221D	.	.	.	.	.	0.2	0.03	.	.	.	.	.	.	.	.	63 x 39
IARM 221A	.	.	.	.	.	0.2	0.03	.	.	.	.	.	.	.	.	63 x 39
IARM 221B	.	.	.	.	.	0.2	0.03	.	.	.	.	.	.	.	.	63 x 39
AA SQ-11	.	.	.	.	.	0.01	0.03	.	.	.	.	.	.	.	.	64 x 37
PY 9627	.	.	.	.	<0.0001	.	.	0.0001	.	0.00002	.	0.01	.	.	.	50 x 50
PY 9628	.	.	.	.	<0.0001	.	.	0.0001	.	0.00003	.	0.01	.	.	.	50 x 50
PY 310	.	.	.	.	<0.0002	.	.	<0.00002	.	0.00004	.	.	.	.	.	50 x 50
PY 309	.	.	.	.	.	.	.	.	.	.	.	0.0003	.	.	.	50 x 50
PY 9325	.	.	.	.	<0.0001	.	.	.	.	.	.	.	.	.	.	50 x 50
PY 9324	.	.	.	.	<0.0001	.	.	.	.	.	.	.	.	.	.	50 x 50
BS 7075	.	.	.	<0.001	.	.	.	.	.	.	0.006	0.006	.	.	.	62 x 50
AA SQ-14	.	.	.	0.5	.	.	.	.	.	.	.	.	.	.	.	64 x 37
PY 9630	.	.	.	.	0.0002	.	.	0.0001	.	0.00007	.	.	.	.	.	50 x 50
PY 325	.	0.0007	.	.	.	.	.	.	.	.	0.006	0.0005	.	.	.	50 x 50
PY 9806-1	.	.	.	0.7	.	0.9	.	.	.	.	.	.	.	.	.	60 x 40
PY 9807	.	0.009	.	0.7	.	0.9	.	.	.	.	.	.	.	.	.	60 x 40
BS 2024	.	.	.	0.002	.	.	.	.	.	.	0.01	0.01	.	.	.	62 x 50
PY 9614	.	.	.	.	0.0001	.	.	0.0004	.	.	.	0.02	.	.	.	50 x 50
C Al 3	.	.	.	.	.	.	0.011	.	.	.	.	.	96	.	.	50x30-50
PY 9321	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50 x 50
V P-3	.	0.0002	.	.	0.001	0.0005	0.02	.	.	.	.	0.001	.	.	.	52 x 40
BS 2011	.	.	.	0.44	.	.	.	.	.	.	0.007	<0.002	.	.	.	62 x 50
PY 9401	.	.	.	.	.	.	.	.	.	.	.	0.13	.	.	.	50 x 50
AL RC20/02	0.73	.	.	0.38	0.036	0.44	.	.	.	.	.	0.17	.	.	.	60 x 25
V E8	0.005	.	0.004	0.005	0.003	0.003	0.006	.	0.005	.	0.003	0.004	.	.	.	60 x 40
V E5	.	.	.	0.2	.	.	.	.	.	0.01	.	.	.	.	.	60 x 40
V E4	0.20	.	.	.	0.06	0.4	.	.	.	.	.	0.2	.	.	.	60 x 40
V E13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	60 x 40

Number	Ag	B	Ba	Bi	Cd	Co	Ga	Hg	In	Li	V	Zr	Al	Ø X H mm
--------	----	---	----	----	----	----	----	----	----	----	---	----	----	----------

**COBALT BASE SETTING-UP SAMPLES**

typical analysis

T = trace, such as "<0.005" or "<0.01"

28 - 35 mm Ø x 25-35 mm

Number	Co	Al	B	C	Cr	Cu	Fe	Mn	Mo	Nb	Ni	P	S	Si	Ta	Ti	V	W
R Co 11	99.9	.	.	.	T	.	T	T	T	T	0.003	T	.	0.01	.	T	.	0.01
R Co 15	.	0.05	0.02	1	0.11	2	25	T	8	2	0.15	0.03	0.04	0.9	0.17	T	T	0.07
R Co 16	.	0.2	0.06	0.4	0.06	1	25	T	3	2.1	0.03	T	T	0.5	0.2	0.1	1.04	0.02
R Co 14	52	0.005	.	0.2	30.0	.	0.07	0.5	0.1	T	10.0	T	T	1.0	.	.	.	7.0

**CERAMIC MATERIAL**

Number	Al	C	N	O	Ti	W	Units
JK CE 650	38	4.9	0.27	34	22	0.4	Disc 25 mm Ø x 8 mm

**COPPER BASE SETTING-UP SAMPLES**

typical analysis listed in mass %

<b>COPPER</b>	Cu	Sn	Zn	Al	Bi	Cr	Fe	Mn	Ni	Pb	Si	Ag	As	Au	Be
165X CU SUS1	.	0.00007	0.00004	0.000005	0.000005	0.000001	0.0008	0.000001	0.0001	0.0011	0.000005	0.000005	0.000005	.	.
R C 11	99.99	<0.0010	<0.0001	.	<0.0001	<0.0001	<0.0001	<0.0010	<0.0001	<0.0010	<0.0001	0.0011	<0.0001	.	.
BS SU Cu1	99.96	0.0001	0.0001	0.0001	.	0.0001	0.0002	0.0001	0.0002	0.0001	0.0001	0.0012	0.0001	.	0.0001
R C 20	99.96	.	.	.	.	.	.	.	.	.	.	.	.	.	.
R C 110	.	0.006	0.005	0.003	0.003	0.004	0.005	0.004	0.003	0.005	0.003	0.006	0.003	0.003	0.0003
R C 14	99.0	<0.001	<0.001	<0.01	<0.001	0.8	<0.01	0.001	<0.01	<0.001	0.01	.	<0.001	.	.
C Cu 2	.	0.2100	0.1150	.	0.0102	0.0113	0.0220	0.0112	1.0100	0.3710	.	0.5800	.	0.0046	.
C Cu 3	.	.	.	.	.	.	.	.	.	.	.	.	0.0875	.	.
R C 38	67.77	0.02	0.01	<0.01	<0.01	<0.01	0.72	0.81	30.56	<0.01	0.02	0.001	>0.04	.	.

<b>BRASS</b>	Cu	Sn	Zn	Al	Bi	Cr	Fe	Mn	Ni	Pb	Si	Ag	As	Au	Be
165X WSB4 SUS	85	1.0	5.5	0.35	0.01	0.03	0.80	1.5	0.25	0.25	4.5	.	0.03	.	.
PB MSB	80.45	0.93	REM	1.77	0.09	.	0.26	3.10	0.42	0.51	0.24	.	0.08	.	.
PB MSC	67.25	0.77	REM	1.45	0.10	.	1.05	1.80	0.45	0.66	0.13	.	0.09	.	.
C38.07	60	0.2	REM	0.1	0.1	.	0.1	0.2	0.2	0.2	0.03	.	0.1	.	.
R C 32	58.36	0.18	36.48	1.83	<0.001	<0.001	0.29	1.6	0.05	0.5	0.5	<0.01	0.003	.	.
CTIF EA1	57.8	0.20	38.5	.	.	.	0.14	.	0.065	2.95	<0.01	.	0.009	.	.
165X MnB5SUS	55	1.6	38	3.2	.	.	0.55	0.20	1.1	0.20	0.40	.	.	.	.

<b>BRONZE</b>	Cu	Sn	Zn	Al	Bi	Cr	Fe	Mn	Ni	Pb	Si	Ag	As	Au	Be
R C 12	(rem)	0.2	0.18	0.12	0.009	0.04	0.1	0.07	0.03	0.09	0.08	0.06	0.08	(0.002)	0.002
BS 903C	86.6	7.8	4.9	0.002	.	.	0.05	0.002	0.52	0.11	0.002	.	0.005	.	.
165X GM4 SUS	83.6	2.7	6.5	0.001	0.01	0.0005	0.03	0.0005	1.9	5.2	0.002	.	0.01	.	.
R C 40	(rem)	0.02	<0.01	8	.	<0.01	1.5	4	2	0.01	0.02	.	.	0.01	.
165X ALB1 SUS	82	0.03	0.06	9.0	0.015	0.01	2.8	0.08	5.3	0.20	0.10	.	0.005	.	.
R C 33	81.43	0.05	0.12	10.27	0.005	<0.01	3.3	0.27	4.1	0.01	0.04	0.01	0.03	.	<0.001
R C 36	77.1	7.1	0.88	0.002	0.007	<0.001	0.04	<0.01	1.5	13.1	<0.001	0.06	<0.01	.	<0.001

<b>COPPER</b>	C	Ca	Cd	Co	Mg	O	P	S	Sb	Se	Te	Ti	Zr	Units
165X CU SUS1	(0.00005)	.	.	0.00001	0.000001	(0.0370)	0.0001	0.0011	0.00001	0.000005	.	N: (6) ppm	.	50 mm Ø x 45 mm
R C 11	.	.	<0.0001	<0.0001	<0.0001	0.0010	<0.0001	<0.0001	<0.0001	<0.0010	.	.	.	40 mm Ø x 40 mm
BS SU Cu1	0.0003	0.0001	.	0.0001	0.0001	0.0300	0.0001	0.0003	0.0001	.	0.0001	.	.	45 mm Ø x 40 mm
R C 20	.	.	.	.	.	0.03	.	.	.	.	.	.	.	40 mm Ø x 40 mm
R C 110	.	.	0.004	0.003	0.004	.	0.003	0.004	0.006	0.004	0.007	0.001	<0.002	40 mm Ø x 40 mm
R C 14	.	.	.	.	.	.	.	<0.001	<0.001	.	.	.	0.11	40 mm Ø x 40 mm
C Cu 2	.	.	.	.	.	.	.	.	0.2840	.	.	.	.	40 Ø x 30 or 50 mm
C Cu 3	.	.	0.0096	0.0496	.	.	.	0.0229	.	0.0475	0.0194	.	.	40 mm Ø x 30 mm
R C 38	.	.	<0.01	0.01	<0.01	.	<0.01	<0.01	>0.02	.	.	.	<0.001	40 mm Ø x 40 mm

<b>BRASS</b>	C	Ca	Cd	Co	Mg	O	P	S	Sb	Se	Te	Ti	Zr	Units
165X WSB4 SUS	.	.	0.003	.	0.08	.	0.08	0.002	0.08	.	.	.	.	40 mm Ø x 17 mm
PB MSB	.	.	0.10	.	.	.	.	.	0.10	.	.	.	.	50 mm Ø x 20 mm
PB MSC	.	.	0.08	.	.	.	.	.	0.09	.	.	.	.	50 mm Ø x 20 mm
C38.07	.	.	.	.	.	.	.	.	0.1	.	.	.	.	50 mm Ø x 10-12 mm
R C 32	.	.	<0.001	.	.	.	<0.01	.	0.06	.	.	.	.	40 mm Ø x 40 mm
CTIF EA1	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 18 mm
165X MnB5SUS	.	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 17 mm

<b>BRONZE</b>	C	Ca	Cd	Co	Mg	O	P	S	Sb	Se	Te	Ti	Zr	Units
R C 12	.	.	0.05	0.05	0.004	.	0.09	0.04	0.03	0.03	0.04	0.005	0.004	40 mm Ø x 40 mm
BS 903C	.	.	.	.	.	.	0.07	<0.002	0.01	.	clearance sale item	.	.	38 mm Ø x 12 mm
165X GM4 SUS	.	.	0.0002	.	.	.	0.005	0.12	0.01	.	.	.	.	40 mm Ø x 17 mm
R C 40	.	.	.	.	<0.01	.	<0.01	.	.	.	.	.	.	40 mm Ø x 40 mm
165X ALB1 SUS	.	.	.	.	0.04	.	0.015	.	.	.	.	.	.	40 mm Ø x 18 mm
R C 33	.	.	0.002	<0.01	<0.001	.	<0.01	0.003	>0.2	.	.	0.021	0.002	40 mm Ø x 40 mm
R C 36	.	.	<0.001	0.001	<0.001	.	0.01	0.01	0.05	.	.	<0.001	<0.001	40 mm Ø x 40 mm

## LEAD BASE SETTING-UP SAMPLES

chill cast typical analysis listed in mass % except \* which is mg/kg

Number	Sn	Sb	Ag	As	Bi	Cd	Cu	Fe	In	Ni	S	Te	Tl	Zn
R Pb 15	31.71	1.91	2.4	0.03	0.10	0.005	(1.79)	<0.001	<0.001	(0.006)	.	<0.01	0.0002	0.09
R Pb 17	4.19	10.78	2.11	0.23	0.12	0.0004	2.34	0.001	0.0003	0.002	0.0003	0.008	0.001	<0.001
168X PbSUS1	1.6	6.1	0.015	0.40	0.07	0.02	0.04	<0.001	0.01	0.003	0.002	0.015	.	0.003
168X Pb SUS5	0.9	0.35	0.2	0.35	0.35	0.09	0.06	<0.001	0.08	0.001	0.0005	0.003	0.002	0.0001
R Pb 18	0.28	4	0.08	3.5	2.7	0.02	0.07	<0.001	0.005	<0.001	<0.01	0.02	0.01	0.04
R Pb 13	0.21	0.11	0.04	0.04	0.24	0.04	0.12	<0.0001	<0.0001	<0.002	.	(0.03)	0.02	0.03
R Pb 16	0.2	<0.001	.	<0.001	0.008	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.001
168X PbSUS6	0.15	0.12	0.04	0.025	0.22	0.015	0.10	<0.001	0.01	0.003	0.0005	0.0005	0.03	0.002
R Pb 14	0.003	9.85	0.015	0.96	0.04	0.005	0.06	<0.0001	<0.001	0.005	0.013	<0.01	0.005	<0.001
R Pb 11	<0.0003	<0.0003	0.0005	<0.0005	0.0022	<0.0003	<0.0001	<0.0001	.	<0.0001	.	<0.0001	<0.0003	<0.0005
168X PBSUSPM1	.	0.0002	0.0025	0.0002	0.0120	.	.	0.0005	.	.	<0.0001	0.0003	0.0007	.
R Pb PM	.	.	0.0100	.	.	.	.	.	.	.	.	.	.	.

Number	Al	Au	Ba	Ca*	Co*	Cr*	Ge	Ir*	K*	Mg*	Mn*	Na	Pd	Pt	Rh*	Ru*	Se
continued																	
R Pb 13: 40 mm Ø x 30 mm other R Pb: 40 mm Ø x 40 mm 168X: ~45-50 mm Ø x ~25-40 mm																	
R Pb 15	.	.	.	.	.	.	.	.	.	.	(10)	.	.	.	.	.	.
R Pb 17	<0.0001	(0.001)	.	.	8	2	(0.001)	.	.	.	3	.	(0.001)	(0.001)	.	.	.
168X PbSUS1	.	0.003	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.008
168X Pb SUS5	.	0.0005	.	.	.	.	Hg:0.02	.	.	.	.	.	.	.	.	.	<0.001
R Pb 18	<0.001	<0.001	<0.001	<1	<1	<10	<0.001	.	<10	<10	<10	<0.001	<0.001	<0.001	<10	<10	0.01
R Pb 13	.	.	.	.	.	.	.	.	.	.	<1	.	.	.	.	.	(0.005)
R Pb 16	0.02	<0.001	0.02	0.3	<10	<10	<0.001	.	<10	20	<10	0.01	<0.001	.	<10	<10	<0.001
168X PbSUS6	.	0.001	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.003
R Pb 14	.	.	.	.	.	.	.	.	.	.	<1	.	.	.	.	.	.
R Pb 11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
168X PBSUSPM1	.	0.0025	.	.	.	.	.	3	.	.	.	.	0.0010	0.0030	6	1	.
R Pb PM	.	0.0100	.	.	.	.	.	3	.	.	.	.	0.0050	0.0050	50	50	.

## MAGNESIUM BASE SETTING-UP SAMPLES

cast typical analysis listed in mass %

Number	Mg	Al	Cd	Cu	Fe	Mn	Ni	Pb	Si	Sn	Zn	Zr
R Mg 11	99.9	<0.001	.	0.001	<0.001	0.038	<0.001	.	0.032	.	0.005	.
R Mg 13 *	93	5.7	0.0001	0.006	0.001	0.2	0.001	0.001	0.01	0.001	0.8	0.004
C Mg 2 *	Rem	5.7	0.0001	0.006	0.001	0.2	0.001	0.001	0.01	0.001	0.8	0.004
R Mg 16	Rem	.	.	.	0.001	.	.	.	.	.	.	0.06
166X MG SUS1	.	0.04	.	0.002	0.005	0.17	0.001	0.003	0.06	0.02	6.8	<0.001
166X MG SUS2	.	8	0.004	0.02	0.005	0.4	0.02	0.04	0.12	0.01	0.4	.
R Mg 14	.	8.1	<0.01	0.3	0.003	0.4	0.04	0.002	0.8	0.10	1	0.002

continued \* currently R Mg 13 and C Mg 2 have the same chemsity

Number	Ag	Be	Ca	Ce	Na	Nd	Pr	Sr	Y	Units
R Mg 11	.	.	.	.	.	.	.	.	.	50 mm Ø x 40-50 mm
R Mg 13 *	.	.	.	.	0.001	.	.	.	.	50 mm Ø x 40-50 mm
C Mg 2 *	.	.	.	.	0.001	.	.	.	.	50 mm Ø x 40-50 mm
R Mg 16	.	.	.	2.2	.	1.6	0.26	.	2.2	50 mm Ø x 40 mm
166X MG SUS1	0.007	0.0001	<0.001	.	.	.	.	0.0001	.	40 mm Ø x 17 m
166X MG SUS2	0.005	0.0015	0.015	.	.	.	.	0.0003	.	40 mm Ø x 17 m
R Mg 14	.	.	.	.	<0.01	.	.	.	.	50 mm Ø x 40-50 mm

## NICKEL BASE SETTING-UP SAMPLES

typical analysis

Number	Ni	Al	C	Co	Cr	Cu	Fe	Mn	Mo	Nb	P	S	Si	Ti	W
R Ni 10	99.96	0.002	<0.01	0.03	.	<0.001	<0.01	.	.	.	.	<0.001	<0.001	.	.
R Ni 11	99.6	.	0.03	.	.	0.03	0.05	0.25	.	<0.03	.	<0.01	0.1	<0.03	.
PV 202/1	.	.	0.085	.	14.48	0.253	7.48	0.217	.	.	(<0.01)	(<0.01)	0.472	.	.
R Ni 17	70.92	0.03	0.70	0.2	0.56	0.3	17.8	0.27	0.37	0.21	<0.01	<0.01	0.43	0.24	8.36
R Ni 12	67.6	2.43	0.13	0.03	0.16	28.04	0.61	0.85	.	.	<0.01	<0.01	0.26	0.35	.
R Ni 13	59.07	0.21	<0.01	0.04	15.9	0.04	5.5	0.08	15.8	0.04	0.002	<0.001	0.07	0.03	3.0
R Ni 15	53.06	0.6	0.02	0.3	18.1	0.10	18.4	0.17	2.9	4.9	<0.01	<0.01	0.08	1	0.08
R Ni 14	49.8	0.47	0.04	19.86	21.02	0.02	0.29	0.37	5.58	0.03	<0.01	<0.01	0.14	2.26	0.03
PV 204/1	39.46	.	0.017	.	22.49	1.93	30.35	0.773	3.27	.	0.014	(<0.01)	0.268	.	.

Number	B	Ta	V	Zr	Units
R Ni 10	.	.	.	.	40 mm Ø x 40 mm
R Ni 11	.	.	.	.	40 mm Ø x 40 mm
PV 202/1	.	.	.	.	40 mm Ø x 25 mm
R Ni 17	0.04	0.03	0.15	<0.01	40 mm Ø x 30 mm
R Ni 12	.	(0.04)	.	.	40 mm Ø x 40 mm
R Ni 13	<0.005	<0.001	0.16	<0.01	40 mm Ø x 40 mm
R Ni 15	0.004	<0.001	0.05	0.01	40 mm Ø x 40 mm
R Ni 14	0.002	.	<0.01	0.01	40 mm Ø x 40 mm
PV 204/1	.	.	.	.	40 mm Ø x 25 mm

## ROHS/WEEE DIRECTIVE XRF DISCS

available individually or in SET/3

typical analysis

40 mm Ø x 5 mm

Number	Al <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	Br	CaO	CdO	Cl	Cr <sub>2</sub> O <sub>3</sub>	MgO	Na <sub>2</sub> O	PbO	Sb <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>
BR ROHS 1/3	7.0	5.5	0	10.0	0	0	0	6.5	17.0	0	1.0	53.0
BR ROHS 2/3	7.0	4.536	0.100	10.0	0.011	0.5	0.146	6.5	17.0	0.107	1.1	53.0
BR ROHS 3/3	7.0	2.118	0.5	10.0	0.114	1.0	0.73	6.5	17.0	0.538	1.5	53.0

## TIN BASE SETTING-UP SAMPLES

typical analysis

Number	Sn	As	Bi	Cu	Fe	Pb	Sb	Ag	Al	Au	Cd	Co	Ge
R Sn 10	>99.99	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0030	<0.0001	<0.0005	.	<0.0001	.	.
R Sn 11	99.9	<0.002	<0.002	<0.003	<0.001	0.01	0.01	.	.	.	.	.	.
1611X SnSUS6	.	0.30	0.09	0.50	0.050	0.95	0.13	0.08	.	0.003	0.008	0.015	.
R Sn 21	Rem	0.006	0.1	0.4	0.1	0.09	0.06	10	0.02	.	<0.001	0.1	0.1
R Sn 13	85.1	<0.01	0.04	0.2	0.13	1.2	13.0	<0.01	0.06	.	0.01	0.08	.
1611X Sn SUS7	.	2.3	2.6	12.3	(0.05)	0.32	11.1	0.12	<0.001	0.0005	0.018	0.0005	0.0005
R Sn 15	Rem	.	0.3	6.8	0.06	.	8	3	0.04	0.01	.	.	0.4
R Sn 20	Rem	0.004	10	0.01	<0.01	0.06	0.02	<0.01	<0.001	.	0.01	<0.001	.
R Sn 12	Rem	0.33	0.10	0.99	<0.01	35.74	1.74	0.18	<0.001	.	0.13	<0.01	.
R Sn 14	45	.	40	.	.	.	.	.	.	.	12	.	.

Number	In	Ni	P	Pt	S	Se	Te	Tl	Zn	Units
R Sn 10	<0.0005	<0.0005	<0.0003	.	<0.0003	.	.	<0.0005	<0.0001	40 mm Ø x 40 mm
R Sn 11	.	.	.	.	.	.	.	.	<0.001	40 mm Ø x 40 mm
1611X SnSUS6	0.005	0.030	.	.	0.001	0.001	0.001	0.005	0.005	50 mm Ø x 20 mm
R Sn 21	0.08	0.4	<0.001	.	.	.	.	<0.001	0.3	40 mm Ø x 40 mm
R Sn 13	<0.01	0.22	.	.	.	.	.	<0.001	0.02	40 mm Ø x 40 mm
1611X SnSUS7	0.050	0.10	.	0.0005	.	0.005	0.003	0.03	0.03	50 mm Ø x 20 mm
R Sn 15	.	0.03	.	.	.	.	.	.	0.04	40 mm Ø x 40 mm
R Sn 20	7.7	<0.01	0.01	.	.	.	.	<0.001	25	40 mm Ø x 40 mm
R Sn 12	0.12	<0.01	.	.	.	.	.	0.03	0.01	40 mm Ø x 40 mm
R Sn 14	.	.	0.05	.	.	.	.	.	.	40 mm Ø x 40 mm

## TITANIUM BASE SETTING-UP SAMPLES

typical analysis

40 mm Ø x 40 mm

Number	Ti	Al	C	Fe	Mo	Pd	Sn	V	Zr
R Ti 11	99.6	.	0.06	0.05	.	.	.	.	.
R Ti 12	99.4	.	0.06	0.2	.	0.2	.	.	.
R Ti 13	Rem.	7.7	0.05	0.05	.	.	.	4.5	.
R Ti 14	Rem.	(6)	~0.02	~0.01	2	.	2	.	4

## ZINC BASE SETTING-UP SAMPLES

typical analysis		169X, 1690X: 50 mm Ø x 20 mm										C: 40 mm Ø x 30 mm		R: 40 mm Ø x 40 mm	
Number	Zn	Ag	Al	Cd	Cu	Fe	In	Mg	Mn	Ni	Pb	Sb	Sn	Ti	Tl
R Zn 11	99.99	.	<0.0001	<0.0001	0.0003	0.0030	.	<0.0001	<0.0001	0.0001	0.0008	.	<0.0001	<0.0001	.
R Zn 12	99.8	0.003	0.01	0.008	0.012	0.05	0.011	0.006	(0.002)	0.005	0.015	0.011	0.012	0.005	0.009
R Zn 16	.	.	0.23	0.049	0.011	0.092	.	.	.	.	0.23	.	0.009	.	.
R Zn 15	.	.	0.2	0.5	0.23	0.19	.	.	0.007	.	0.14	0.03	0.06	.	.
R Zn 13	97.1	0.04	1.1	0.2	0.3	<0.01	0.3	<0.01	<0.01	0.03	0.5	0.06	0.3	<0.01	0.04
C Zn 4	.	.	.	0.0107	0.39	0.67	.	.	.	.	1.97	.	0.96	.	.
1690X ZnChk2	.	.	0.01	0.12	0.42	0.75	.	<0.001	.	.	2	.	1	.	.
C Zn 3	.	.	4.06	0.0058	1.19	0.0106	.	0.046	.	.	0.0046	.	0.0011	.	.
169X ZnSUS1 *	.	0.04	0.35	0.3	0.35	0.05	0.25	0.002	0.001	0.06	0.6	0.2	0.3	0.001	0.06
1690X ZnChk1	.	.	4	0.005	1.2	0.025	.	0.02	.	.	0.005	.	0.003	.	.
R Zn 14	86.4	<0.001	10.48	0.02	2.67	0.06	<0.0005	0.11	0.05	0.042	0.05	0.01	0.05	0.02	<0.001

\* 169X ZN SUS1 also contains Bi: 0.005, Cr: 0.001, and Si: 0.003

## RM ZINC BINARY

cast typical analysis listed in mass %

Number	Mg	Mn	Sb	Zn	Size
41X ZMg1	1.13	.	.	Remainder	40 mm Ø x 15 mm
41X ZMg3	2.80	.	.	Remainder	40 mm Ø x 15 mm
41X ZMn1	.	1.06	.	Remainder	50 mm Ø x 20 mm
41X ZSb1	.	.	1.03	Remainder	40 mm Ø x 15 mm
41X ZSb4	.	.	3.78	Remainder	40 mm Ø x 15 mm
41X ZSb8	.	.	7.68	Remainder	40 mm Ø x 15 mm

**CAST IRON SETTING-UP SAMPLES**

chill cast		typical analysis															
Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	Nb	Sn	Ti	V	W	Mg	Ce
NCS AH11350	4.3	0.241	0.044	0.13	1.2	0.49	1.02	2.19	0.428	0.02	0.08	0.021	0.154	0.579	0.72	.	.
C Fe 5	4.1	0.2	0.05	0.04	0.6	0.01	0.02	0.1	0.03	0.05	<0.002	<0.003	0.04	0.2	.	.	.
SUS 5	3.9	0.61	.	0.01	2.0	<0.005	1.0	0.01	.	0.04	.	0.07	0.005	0.44	.	0.09	0.03
C Fe 7	(3.7)	0.07	0.015	0.005	3.1	0.14	0.05	0.03	<0.01	0.015	.	0.003	0.01	0.018	.	.	.
NCS AH11349	3.66	0.465	0.56	0.064	1.2	0.63	1.31	0.488	0.99	0.012	0.103	0.096	0.22	0.049	0.055	.	.
SUS 2	3.6	0.72	0.19	0.14	1.7	0.20	0.48	0.07	0.10	<0.005	.	0.10	0.06	0.51	.	.	.
IARM 215A	3.5	1.3	0.3	0.13	2.1	0.6	0.9	0.6	0.5	0.037	.	0.17	0.07	0.5	.	.	.
BS SU CCC	3.47	0.071	0.029	0.010	1.79	0.024	0.030	0.032	0.006	0.013	.	0.003	0.003	0.007	.	0.030	.
CKD U2	3.41	1.16	0.42	0.099	2.18	0.49	0.57	0.69	1.15	0.025	0.014	0.052	0.052	0.21	0.002	.	.
SUS 3	3.3	0.92	1.0	0.10	2.2	0.03	0.03	0.26	<0.005	<0.005	.	<0.005	0.12	0.30	.	.	.
C Fe 6	(3.3)	0.7	0.04	0.03	2.6	0.8	0.03	0.03	<0.01	0.004	.	0.002	0.02	0.007	.	.	.
R G 14	3.3	0.2	0.04	<0.01	2.2	0.07	0.8	1	.	0.04	.	0.2	0.04	0.17	.	0.06	0.04
R G 16	3.3	0.2	0.3	0.004	2.2	0.09	0.9	1.0	.	0.05	.	0.2	0.05	0.2	.	0.03	0.03
SUS 4	3.3	0.14	.	0.01	2.6	0.76	0.08	0.08	.	0.01	.	<0.005	0.05	0.46	.	0.03	.
NCS AH11348	3.28	0.873	0.074	0.078	1.6	1.13	0.451	0.462	0.245	0.004	0.119	0.049	0.094	0.15	0.11	.	.
BS SU CCD	3.28	0.59	0.020	0.008	2.53	0.050	0.020	0.030	0.002	0.015	.	0.002	0.006	0.014	.	0.032	.
C Fe 8	3.2	0.4	0.02	0.02	1.1	0.06	0.03	0.05	0.01	0.03	0.001	0.003	0.01	0.01	0.009	.	.
R G 13	3.1	0.9	0.5	0.08	2.2	0.4	0.5	0.9	0.3	0.05	<0.01	0.3	0.04	0.3	0.08	.	.
SUS 1	3.1	0.40	0.05	0.06	2.5	0.47	0.20	0.48	0.32	0.02	.	0.05	<0.005	0.04	.	.	.
R N 15	3	1.8	.	.	.	.	3	.	.	0.4	.	0.04	.	.	.	.	.
IARM 216A	3	0.3	0.026	0.001	3	0.08	2	1.5	0.004	0.06	0.3	0.04	0.007	0.03	0.043	0.08	.
CKD T	2.8	1.3	0.15	0.18	1.6	0.3	0.2	0.1	0.2	.	.	0.04	0.05	0.05	.	.	.
SUS 7	2.8	0.29	0.09	0.18	0.94	0.21	.	0.07	.	0.02	.	<0.01	.	0.06	.	.	.
NCS AH11346	2.53	0.85	0.17	0.033	2.48	1.5	0.255	1.06	0.223	0.028	0.067	0.027	0.161	0.136	0.188	.	.
SUS 6	2.5	0.65	0.05	0.12	1.8	0.02	.	0.10	.	<0.005	.	0.05	0.02	0.02	.	.	.
R G 15	2.3	0.8	0.3	0.1	4.5	0.02	0.5	0.6	0.8	0.05	.	0.1	.	.	.	.	.
NCS AH11345	2.06	1.2	0.041	0.041	2.94	0.322	0.151	0.159	0.097	0.017	0.147	0.066	0.032	0.058	0.279	.	.
NCS AH93301	1.89	2.13	0.043	0.100	3.50	1.96	0.074	3.00	0.017	.	0.499	.	0.247	0.027	0.044	.	.
C Fe 4	1.4	0.5	0.01	0.010	0.4	0.03	0.130	11.4	0.7	0.007	0.006	0.008	0.004	0.8	<0.01	.	.

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	Nb	Sn	Ti	V	W	Mg	Ce
NCS AH11350	0.002	0.041	.	.	0.01	.	.	0.003	0.13	.	.	.	.	.	.	.	.
C Fe 5	<0.005	.	.	.	.	.	.	.	0.04	.	.	.	.	.	.	.	.
SUS 5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C Fe 7	.	.	.	.	.	.	.	<0.001	.	.	.	.	.	.	.	.	.
NCS AH11349	0.027	0.077	.	.	0.009	.	.	0.002	0.038	.	.	.	.	.	.	.	.
SUS 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
IARM 215A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BS SU CCC	0.001	.	.	0.0020	0.021	.	.	.	.	.	.	.	.	.	.	.	.
CKD U2	0.030	0.008	0.010	.	0.012	.	.	0.011	0.022	0.014	0.017	0.016	.	.	.	.	.
SUS 3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C Fe 6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
R G 14	.	0.04	.	.	.	0.01	.	.	.	.	.	.	.	.	.	.	.
R G 16	.	0.04	.	.	.	<0.01	.	.	.	.	0.004	.	.	.	.	.	.
SUS 4	0.07	.	.	.	.	.	.	.	<0.005	.	.	.	.	.	.	.	.
NCS AH11348	0.009	0.024	.	.	0.009	.	.	0.0005	0.031	.	.	.	.	.	.	.	.
BS SU CCD	0.001	.	.	0.0027	0.009	.	.	.	.	.	.	.	.	.	.	.	.
C Fe 8	0.002	0.02	.	.	0.009	.	.	.	.	.	0.02	.	0.0002	.	.	.	.
R G 13	.	.	.	.	0.02	.	.	.	.	.	.	.	.	.	.	.	.
SUS 1	.	.	.	.	.	.	.	<0.001	.	.	.	.	.	.	.	.	.
SUS 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
R N 15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
IARM 216A	0.03	0.037	0.004	.	0.6	.	.	0.005	0.06	.	.	0.01	0.05	.	.	.	.
CKD T	0.03	.	.	.	0.05	.	.	.	0.1	.	0.02	.	0.01	.	.	.	.
SUS 7	.	0.004	<0.001	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NCS AH11346	0.023	0.019	.	.	0.008	.	.	0.007	0.025	.	.	.	.	.	.	.	.
SUS 6	.	<0.001	0.01	.	.	.	.	.	.	.	.	.	.	.	.	.	.
R G 15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NCS AH11345	0.037	0.008	.	.	0.006	.	.	0.006	0.064	.	.	.	.	.	.	.	.
NCS AH93301	.	0.0039	.	.	.	.	.	.	0.0021	.	.	.	.	.	.	.	.
C Fe 4	<0.001	0.0041	.	.	0.02	.	0.006	0.0043	.	.	.	.	.	.	.	.	.

Number	As	B	Bi	Ca	Co	La	N	Pb	Sb	Se	Te	Zn	Zr	Units
--------	----	---	----	----	----	----	---	----	----	----	----	----	----	-------

**CAST IRON SETTING-UP SET**

**DUCTILE IRON SETTING-UP SET**

typical analysis		available in SET/6 only							34 mm Ø x 5 mm			
Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo			
KTC-9 B1	2.4	0.05	0.005	0.10	3.0	0.05	1.0	1.0	0.05			
KTC-9 B2	2.6	0.2	0.025	0.09	2.8	0.2	0.8	0.8	0.2			
KTC-9 B3	3.0	0.4	0.05	0.06	2.2	0.4	0.6	0.6	0.4			
KTC-9 B4	3.3	0.6	0.07	0.04	1.8	0.6	0.4	0.4	0.6			
KTC-9 B5	3.7	0.8	0.09	0.02	1.4	0.8	0.2	0.2	0.8			
KTC-9 B6	4.0	1.0	0.12	0.003	1.0	1.0	0.05	0.05	1.0			

sold in set/5 only		typical analysis					45 mm Ø x 5 mm	
Number	Mg	C	Mn	P	S	Si		
KTC-10 M-1	0.05	3.4	0.1	0.015	0.002	2.5		
KTC-10 M-2	0.04	3.4	0.1	0.015	0.002	2.5		
KTC-10 M-3	0.03	3.4	0.1	0.015	0.002	2.5		
KTC-10 M-4	0.02	3.4	0.1	0.015	0.002	2.5		
KTC-10 M-5	0.01	3.4	0.1	0.015	0.002	2.5		

**CAST IRON SETTING-UP SETS**

Number	set KTC-13 10 pcs (4 pcs A and B 34mm Ø x 5mm, 2 pcs C 35mm Ø x 20mm)										set KTC-14 10 pcs (2 pcs D, 4 pcs E and F) 34mm Ø x 5mm									
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	B	Bi	Ca	Mg	Pb	Sb	Sn	Ti	V	Zn
KTC-13 A	3.5	0.1	<0.02	<0.01	2.5	.	.	.	.	.	.	.	.	0.055	.	.	.	<0.01	.	.
KTC-13 B	2.1	0.05	0.7	0.06	3.0	0.55	0.01	0.5	0.3	<0.01	0.1	<0.01	<0.001	.	0.01	0.2	0.3	<0.01	<0.01	
KTC-13 C	0.2	0.8	<0.01	<0.01	0.5	0.01	0.5	0.01	<0.01	0.1	<0.01	0.02	0.003	.	0.05	0.01	<0.01	0.3	0.3	
KTC-14 FCD=D	3.4	0.1	0.015	.	2.5	.	.	.	.	.	.	.	.	0.05	.	.	.	.	.	
KTC-14 FCD=E	2.4	0.05	0.005	0.10	3.0	0.05	1.0	1.0	0.05	.	.	.	.	<0.01	.	.	.	.	.	
KTC-14 FCD=F	4.0	1.0	0.12	0.005	1.0	1.0	0.05	0.05	1.0	.	.	.	.	.	.	.	.	.	.	

**CAST IRON SETTING-UP SETS**

typical analysis available in sets only, as grouped 34 mm Ø x 5 mm

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	Ce	Mg	Sn	Ti	V	Zn
KTC-11 D-1	3.20	0.13	0.028	0.005	3.31	0.19	.	.	0.11	0.087	0.035	0.046	.	.	0.10	0.009
KTC-11 D-2	3.47	0.50	0.016	0.001	2.99	0.04	0.41	.	0.22	0.074	0.011	0.053	0.004	0.10	0.20	0.002
KTC-11 D-3	3.60	0.42	0.033	0.017	2.22	.	0.31	.	0.45	0.012	.	0.022	0.014	0.24	.	0.018
KTC-11 D-4	3.19	0.71	0.020	0.006	2.71	.	0.34	0.21	0.021	0.053	0.008	0.048	0.44	.	0.25	.
KTC-11 D-5	3.78	0.24	0.044	0.014	2.47	.	.	0.02	0.32	0.013	.	0.020	.	0.18	.	0.029
KTC-11 D-6	3.93	0.37	0.071	0.033	1.64	0.31	0.10	0.31	.	0.007	.	0.015	0.054	0.047	0.15	.
KTC-11 D-7	3.99	0.29	0.060	0.021	2.02	0.11	0.21	.	0.062	0.014	.	0.013	.	0.12	0.055	0.051
KTC-11 D-8	2.98	0.20	0.050	0.037	2.87	0.52	0.01	0.29	0.008	0.11	0.064	0.021	0.30	.	0.009	.
KTC-11 D-9	3.20	0.84	0.004	0.014	2.48	0.01	.	0.11	0.004	0.10	0.092	0.007	0.20	.	0.37	.
KTC-11 D-10	2.79	0.02	0.008	0.011	2.40	0.40	.	0.40	.	0.029	.	0.003	0.089	.	0.003	.
KTC-12 01	3.96	0.80	0.002	0.034	0.40	0.50	.	0.10	0.30	0.001	.	.	.	.	.	0.005
KTC-12 02	3.87	0.63	0.009	0.018	0.84	0.42	.	0.21	0.24	0.013	.	.	.	.	.	0.002
KTC-12 03	3.73	0.05	0.017	0.076	1.18	0.27	.	0.28	0.11	0.018	.	.	.	.	.	0.010
KTC-12 04	3.52	0.50	0.30	0.061	1.59	0.20	0.02	0.43	0.42	0.033	.	.	.	.	0.010	0.024
KTC-12 05	3.40	0.41	0.11	0.047	2.11	0.11	0.54	0.26	0.047	0.054	0.001	.	0.001	.	0.14	0.034
KTC-12 06	3.35	0.35	0.076	0.026	2.22	0.01	0.42	0.35	0.002	0.029	0.015	.	0.41	0.013	0.048	.
KTC-12 07	3.30	0.32	0.050	0.016	2.45	.	0.28	0.03	.	0.052	0.11	.	0.30	0.095	0.10	.
KTC-12 08	3.04	0.26	0.030	0.010	2.71	.	0.20	.	.	0.059	0.067	.	0.20	0.059	0.20	.
KTC-12 09	2.92	0.21	0.52	0.005	2.95	.	0.10	.	.	0.068	0.011	.	0.11	0.17	0.31	.
KTC-12 10	2.50	0.10	0.68	0.0027	3.09	0.52	0.01	.	.	0.097	0.028	.	0.045	0.22	0.004	.

Number	B	Bi	Ca	Pb	Sb
KTC-11 D-1	0.028	.	.	0.001	0.062
KTC-11 D-2	0.055	.	.	.	0.094
KTC-11 D-3	0.010	.	.	.	0.024
KTC-11 D-4	0.12	.	0.0018	0.004	0.009
KTC-11 D-5	0.001	0.001	0.0005	0.007	0.16
KTC-11 D-6	.	0.005	0.0005	0.016	.
KTC-11 D-7	.	0.011	.	0.009	.
KTC-11 D-8	.	0.005	.	0.009	0.21
KTC-11 D-9	.	.	0.0030	0.037	.
KTC-11 D-10	0.087	0.003	0.0035	0.026	.
KTC-12 01	0.089	.	.	.	0.15
KTC-12 02	0.077	0.010	.	.	0.10
KTC-12 03	0.052	0.013	.	.	0.48
KTC-12 04	0.029	0.004	.	.	0.008
KTC-12 05	0.008	0.001	.	0.007	0.004
KTC-12 06	0.001	0.001	0.0008	0.006	.
KTC-12 07	.	.	0.0013	0.002	.
KTC-12 08	.	.	0.0017	0.016	.
KTC-12 09	.	.	0.0028	0.045	.
KTC-12 10	.	.	0.0052	0.031	.

**IRON SETTING-UP SAMPLES**

typical analysis

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Al	As	Co	Mo	N	Sn
C Fe 1	0.009	0.068	0.006	0.005	0.017	0.015	0.022	0.028	<0.002	0.002	0.0029	0.0017	0.0028	<0.002
R E 13	0.006	0.048	<0.01	<0.01	0.06	0.007	0.006	0.02	<0.003	<0.003	<0.003	<0.01	.	0.002
R E 12	<0.0050	<0.0030	<0.0010	<0.0010	<0.0030	<0.0005	<0.0010	<0.0005	<0.0010	<0.0005	<0.0010	<0.0005	<0.0050	<0.0010
BR 9RE12	<0.002	.	.	.	.	<0.001	<0.002	<0.002	.	.	<0.001	<0.002	<0.001	.
NCS AH11351a	0.0013	0.16	0.0054	0.0013	0.0015	0.020	0.067	0.195	<0.001	0.0058	0.0072	0.013	0.0037	0.0015
BS SU CPI C	0.0014	0.054	0.004	0.006	0.003	0.002	0.007	0.010	0.011	0.002	0.002	0.0014	.	<0.001
Number	B	Ca	Fe	Mg	Nb	Pb	Sb	Ta	Ti	V	W	Zr	Units (mm)	
C Fe 1	<0.004	<0.001	.	.	<0.001	<0.001	.	.	<0.001	<0.001	<0.001	<0.001	<0.001	40 Ø x 30 or 50
R E 13	<0.0002	<0.0005	.	.	0.003	<0.001	.	<0.004	<0.001	<0.001	<0.002	<0.001	<0.001	40 Ø x 40
R E 12	<0.0010	<0.0010	.	.	<0.0010	<0.0010	.	.	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	40 Ø x 40
BR 9RE12	.	.	.	.	.	.	.	.	<0.001	.	.	.	.	43 Ø x 40
NCS AH11351a	<0.0005	(0.0003)	.	.	<0.001	<0.0005	.	.	0.0005	<0.001	(0.002)	.	.	38 Ø x 40
BS SU CPI C	<0.0001	<0.005	99.9	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	48 x 48 x 30

## IRON AND STEEL SETTING-UP SAMPLES

## CONTINUED ON THE NEXT PAGE

typical analysis

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	Co	N	Ti	V	W
BS SU D2	1.52	0.29	0.024	0.0003	0.55	0.075	0.13	11.34	0.83	0.005	0.008	0.017	.	0.003	0.76	0.02
R H 18	1.36	0.22	0.02	0.02	0.23	0.08	0.18	4.24	3.36	0.007	0.014	10.14	.	0.003	3.19	8.91
BS 211	1.09	0.48	0.025	0.014	0.62	0.10	0.105	1.46	0.045	(0.007)	0.029	.	.	.	0.014	.
R N 19	1.06	1.64	0.12	0.04	1.26	0.58	3.06	2.94	0.87	0.07	0.46	>0.72	0.03	0.15	0.42	0.45
BR ST2	1.075	2.38	0.040	0.013	0.340	0.242	0.603	2.35	0.128	0.033	0.016	0.013	(0.0085)	0.013	0.156	0.194
KUT K3	1.03	0.46	(0.02)	0.010	0.32	0.09	0.18	1.63	.	.	.	.	.	.	.	.
BS 05E	1.03	0.35	0.013	0.016	0.235	0.199	0.093	1.55	0.034	0.012	0.012	0.009	0.0078	0.003	0.006	.
R N 13	1.01	1.76	<0.01	<0.01	0.02	<0.01	3.06	0.01	<0.01	0.05	0.40	<0.01	<0.01	<0.001	<0.01	0.08
R H 13	1	0.3	0.02	<0.01	0.4	0.16	0.3	3.9	4.8	0.02	0.02	4	.	0.003	1.7	6
NCS AH21306	0.98	2.03	0.037	0.0030	1.96	0.030	1.18	1.88	0.014	0.013	0.985	.	.	0.058	0.043	0.0084
R N 16	0.98	1.80	<0.01	<0.01	0.01	<0.01	3.18	<0.01	<0.01	0.05	0.39	<0.01	<0.01	<0.001	<0.01	0.07
BAM SUS-1 R	0.9	1.1	0.02	0.0174	0.8	0.7	2.9	1.7	0.9	.	.	0.3	.	.	0.5	0.7
IARM 219A	0.9	0.02	0.003	0.002	2	0.6	2.8	5	1.5	0.06	0.2	1	0.002	1.7	0.3	0.01
NCS AH21311	0.856	0.312	0.017	0.005	0.33	0.261	0.048	3.93	4.83	.	0.36	4.86	.	0.17	1.90	6.25
R Fe D	0.81	0.33	0.03	0.02	1.3	0.12	0.13	2.71	1.38	0.01	0.21	0.33	0.02	0.18	0.04	0.10
SUS D	0.80	0.40	0.01	0.03	0.80	0.11	0.10	3.0	1.3	0.01	0.19	0.29	0.01	0.10	0.12	0.16
NCS AH21313	0.75	0.16	0.017	0.002	0.282	0.137	0.041	4.20	0.10	0.045	.	0.010	.	.	1.17	17.99
NCS AH21309	0.701	2.06	0.013	0.039	0.042	0.022	0.026	0.065	0.003	0.017	0.107	0.010	.	.	0.094	0.193
BR ST1	0.520	1.04	0.039	0.025	0.486	0.262	0.786	0.697	0.398	0.0165	0.098	0.052	0.0053	0.078	0.330	0.139
KUT K4	0.52	0.84	(0.02)	0.025	0.46	0.28	(0.1)	1.24	.	.	.	.	.	.	0.20	.
KUT K6	0.51	0.79	(0.02)	0.026	0.30	0.26	1.72	0.96	0.37	.	.	.	.	.	.	.
BS 02H	0.49	0.75	0.007	0.028	0.19	0.21	0.17	0.11	0.026	0.016	<0.001	0.007	.	<0.001	0.029	<0.001
BS 02B	0.476	0.81	0.024	0.025	0.21	0.035	0.017	0.018	0.004	0.005	0.045	.	.	.	.	.
BS 02A	0.47	0.80	0.012	0.026	0.22	0.006	0.007	0.014	0.002	0.002	0.06	.	.	.	.	.
PV 101/1	0.424	0.798	0.014	0.027	0.177	0.108	0.091	1.013	0.099	.	.	.	.	.	.	.
BS SU 8740	0.41	0.92	0.014	0.014	0.24	0.14	0.44	0.51	0.225	0.007	0.019	0.012	0.0085	.	.	.
SUS B	0.39	0.44	0.005	<0.005	0.29	0.15	1.5	1.2	0.20	0.01	0.01	0.02	.	0.01	0.01	0.005
NCS AH28301 *	0.383	0.250	0.016	0.0043	0.918	0.029	0.040	5.24	1.36	.	0.0105	0.011	.	0.0069	0.952	0.0080
C Fe 2 30mm	0.32	0.44	0.048	0.011	0.32	0.31	0.83	0.59	0.28	0.033	0.01	0.03	(0.02)	0.015	0.3	0.044
C Fe 2 40mm	0.29	0.69	0.042	0.013	0.45	0.36	0.83	0.59	0.31	0.033	0.015	0.05	(0.02)	0.045	0.3	0.038
BS SU 4130	0.29	0.55	0.015	0.020	0.25	0.104	0.090	0.97	0.16	.	0.030	0.006	0.0057	.	.	.
BS 210	0.28	0.56	0.021	0.018	0.42	0.084	1.86	0.70	0.23	(0.006)	0.016	.	.	.	0.005	.
BS 202	0.255	0.62	0.018	0.014	0.48	0.038	0.018	0.030	0.007	(0.003)	0.064	.	.	.	0.003	(0.002)
BR ST3	0.252	1.85	0.018	0.007	1.16	0.520	1.01	0.217	0.048	0.083	0.013	0.103	0.0076	0.002	0.083	0.386
R Fe C	0.22	1.59	0.09	0.08	0.22	0.62	3.09	0.35	0.07	0.07	<0.01	0.08	0.02	0.005	0.47	0.51

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	Co	N	Ti	V	W
BS SU 4620	0.21	0.58	0.010	0.023	0.23	0.14	1.69	0.15	0.26	0.008	0.022	0.009	0.0090	0.002	0.002	.
BS SU 8620	0.21	0.836	0.011	0.0216	0.29	0.084	0.485	0.547	0.185	0.006	0.033	0.005	0.0072	.	.	.
BS SU 1018A	0.20	0.82	0.005	0.017	0.26	0.22	0.19	0.071	0.042	0.026	0.002	0.007	0.0099	0.002	0.056	.
BS SU LF-2A	0.195	1.02	0.009	0.023	0.224	0.093	0.151	0.146	0.024	0.006	0.031	0.007	0.0080	<0.001	0.002	.
PV 102/1	0.186	1.226	0.024	0.018	0.184	0.109	0.140	0.995	0.030	.	.	.	.	.	.	.
BS 208	0.185	0.86	0.022	0.016	0.44	0.10	0.63	0.57	0.21	(0.006)	0.020	.	.	.	0.006	(0.006)
BS 03D	0.18	1.15	0.025	0.10	0.28	0.27	0.11	0.18	0.04	0.017	<0.001	0.02	0.011	.	.	.
BS SU 1018D	0.18	0.87	0.004	0.026	0.24	0.20	0.066	0.088	0.015	0.010	<0.001	0.007	.	<0.001	0.002	<0.001
BS SU LF-2	0.17	1.13	0.007	0.008	0.24	0.19	0.115	0.12	0.035	.	0.040	0.014	0.0074	.	.	.
BS SU 1018C	0.17	0.87	0.006	0.018	0.25	0.20	0.074	0.089	0.020	0.010	0.001	0.007	.	0.001	0.032	<0.001
BS SU LF-3	0.17	0.83	0.008	0.011	0.22	0.07	3.25	0.11	0.017	0.005	0.021	0.010	0.0067	0.002	0.0024	.
SUS C	0.16	0.77	0.07	0.05	0.18	0.43	3.5	0.19	0.11	0.04	0.05	0.06	0.004	0.04	0.41	0.25
R N 17	0.16	0.40	0.10	0.09	1.9	0.17	0.07	3.2	0.5	0.003	0.004	0.4	0.03	0.04	0.5	0.3
BS 213	0.152	0.68	0.015	0.005	0.49	0.059	2.68	0.37	(0.008)	(0.002)	(0.04)	.	.	.	(0.004)	(0.006)
BS 207	0.15	0.51	0.017	0.013	0.39	0.033	0.017	0.37	0.005	(0.003)	0.007	.	.	.	0.002	.
BS SU 9310	0.125	0.57	0.010	0.016	0.23	0.19	3.25	1.29	0.127	0.014	0.026	0.016	0.0102	0.002	0.005	.
BS 201	0.12	0.70	0.011	0.004	0.43	0.039	0.032	0.092	0.010	(0.003)	0.020	.	.	.	0.006	.
BS 214	0.10	0.65	0.019	0.012	0.34	0.10	3.70	0.21	0.02	(0.005)	0.025	.	.	.	(0.004)	<0.008
KUT K9	0.096	1.53	(0.01)	0.018	0.59	0.73	0.97	0.64	0.56	.	(0.01)	.	.	0.11	0.27	.
C Fe 9	0.09	1.2	0.06	0.3	0.001	0.006	0.01	0.01	0.005	.	0.0005	0.003	.	.	.	.
IARM 218A	0.05	2	0.1	0.07	0.1	0.6	5	0.1	0.1	0.1	0.003	0.01	0.007	0.01	1	0.7
SUS A	0.02	0.15	<0.005	0.005	0.01	0.01	0.05	0.02	0.01	<0.005	0.07	0.01	.	<0.001	<0.005	<0.005
R N 14	0.02	0.15	0.11	0.08	2.2	0.59	0.03	3.1	0.5	0.004	0.006	0.4	0.02	0.07	0.5	0.3
IARM 217A	0.01	0.003	0.002	0.001	0.01	0.001	0.01	0.01	0.01	0.0005	0.0002	0.004	0.0005	0.0001	0.002	0.005
NCS AH21307	0.015	0.122	0.012	0.051	0.055	0.286	4.09	4.76	1.40	0.048	0.014	.	.	0.097	0.545	1.68
NCS AH21308	0.003	0.017	0.005	0.004	1.48	0.192	0.980	1.05	0.312	0.007	0.250	0.003	.	0.001	.	0.001

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	Co	N	Ti	V	W
--------	---	----	---	---	----	----	----	----	----	----	----	----	---	----	---	---

\* NCS 28301 also contains Al(ins): 0.0049 and Al(sol): 0.0056.

## IRON AND STEEL SETTING-UP SAMPLES

## CONTINUED FROM THE PREVIOUS PAGE

Number	As	B	Bi	Ca	Nb	O	Pb	Sb	Ta	Te	Zn	Zr	Units
BS SU D2	0.003	0.0002	.	.	0.004	.	0.0006	0.003	.	.	.	.	38 mm Ø x 40 mm
R H 18	.	.	.	.	0.02	.	.	.	.	.	.	.	40 mm Ø x 40 mm
BS 211	.	.	.	.	0.005	.	.	.	.	.	.	.	32 mm Ø x 17 mm
R N 19	0.07	0.005	>0.06	<0.005	>0.42	.	0.03	0.06	0.46	0.04	>0.03	0.16	40 mm Ø x 40 mm
BR ST2	0.027	0.0018	.	.	0.086	.	(0.001)	(0.002)	.	.	.	0.005	45 mm Ø x 30 mm
KUT K3	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
BS 05E	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 150 mm
R N 13	<0.01	<0.001	<0.001	<0.001	<0.01	.	<0.01	0.05	<0.01	<0.01	.	0.18	40 mm Ø x 40 mm
R H 13	.	.	.	.	0.03	.	.	.	.	.	.	.	40 mm Ø x 40 mm
NCS AH21306	0.025	.	.	.	0.104	.	.	.	.	.	.	.	40 mm Ø x 45 mm
R N 16	<0.01	<0.001	<0.001	<0.001	<0.01	.	<0.01	0.04	<0.01	<0.01	.	0.19	40 mm Ø x 40 mm
BAM SUS-1 R	.	.	.	.	0.6	.	.	.	.	.	.	.	50 mm Ø x 42 mm
IARM 219A	0.01	0.01	.	<0.0001	0.4	.	0.003	0.1	0.01	.	0.01	0.002	38 mm Ø x 38 mm
NCS AH21311	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
R Fe D	0.009	<0.01	<0.01	(0.004)	0.40	.	0.01	0.09	0.02	0.01	.	0.08	40 mm Ø x 40 mm
SUS D	.	<0.001	.	.	0.05	.	.	.	.	.	.	.	44 mm Ø x 150 mm
NCS AH21313	0.027	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
NCS AH21309	0.017	0.0041	.	0.0009	0.313	.	.	0.0034	0.098	.	.	.	40 mm Ø x 40 mm
BR ST1	0.031	0.0057	.	.	0.056	.	(0.001)	(0.01)	.	.	.	0.025	45 mm Ø x 30 mm
KUT K4	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
KUT K6	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
BS 02H	0.006	0.0004	.	0.0012	<0.001	.	<0.001	<0.001	<0.001	.	.	<0.001	38 mm Ø x 150 mm
BS 02B	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 150 mm
BS 02A	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 150 mm
PV 101/1	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 25 mm
BS SU 8740	.	.	.	.	.	0.0016	.	.	.	.	.	.	38 mm Ø x 40 mm
SUS B	0.005	0.001	.	<0.001	0.005	.	<0.001	.	.	.	.	.	44 mm Ø x 150 mm
NCS AH28301 *	0.0026	.	.	.	0.0026	.	.	.	.	.	.	.	35 mm Ø x 35 mm
C Fe 2 30mm	0.053	0.0032	.	0.0006	0.015	.	(0.006)	0.02	0.02	.	.	.	40 mm Ø x 30 mm
C Fe 2 40mm	0.045	0.0015	.	<0.001	0.018	.	(0.0009)	0.005	0.03	.	.	.	40 mm Ø x 40 mm
BS SU 4130	.	.	.	.	.	0.002	.	.	.	.	.	.	44 mm Ø x 40 mm
BS 210	.	.	.	.	0.016	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BS 202	.	.	.	.	0.025	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BR ST3	0.023	0.004	.	.	0.007	.	(0.001)	(0.007)	.	.	.	0.002	45 mm Ø x 30 mm
R Fe C	0.11	0.001	0.05	0.002	0.03	.	0.04	0.03	0.06	0.04	0.02	<0.01	40 mm Ø x 40 mm
Number	As	B	Bi	Ca	Nb	O	Pb	Sb	Ta	Te	Zn	Zr	Units
BS SU 4620	.	.	.	.	.	0.002	.	.	.	.	.	.	44 mm Ø x 40 mm
BS SU 8620	.	.	.	0.0008	.	0.0017	.	.	.	.	.	.	38 mm Ø x 40 mm
BS SU 1018A	0.005	.	.	0.0010	.	0.0035	.	.	.	.	.	0.002	38 mm Ø x 150 mm
BS SU LF-2A	0.003	.	.	<0.0002	.	0.002	.	.	.	.	.	0.001	48 mm Ø x 150 mm
PV 102/1	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 25 mm
BS 208	.	.	.	.	0.005	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BS 03D	.	.	.	.	.	.	.	.	.	.	.	.	41 mm Ø x 150 mm
BS SU 1018D	0.005	0.0005	.	0.001	0.003	.	<0.002	<0.001	<0.001	.	.	<0.001	41 mm Ø x 150 mm
BS SU LF-2	.	.	.	.	.	0.002	.	.	.	.	.	.	38 mm Ø x 40 mm
BS SU 1018C	0.006	0.0006	.	0.0012	0.002	.	<0.002	<0.001	<0.001	.	.	0.001	37 mm Ø x 150 mm
BS SU LF-3	.	.	.	.	.	0.002	.	.	.	.	.	.	44 mm Ø x 40 mm
SUS C	.	0.008	.	<0.001	0.02	.	.	.	.	.	.	0.03	44 mm Ø x 150 mm
R N 17	0.04	0.003	0.01	0.003	0.5	.	0.01	0.01	0.11	0.02	.	0.002	40 mm Ø x 40 mm
BS 213	.	.	.	.	0.013	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BS 207	.	.	.	.	0.024	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BS SU 9310	.	.	.	.	0.006	0.002	.	.	.	.	.	.	38 mm Ø x 40 mm
BS 201	.	.	.	.	0.025	.	.	.	.	.	.	.	32 mm Ø x 17 mm
BS 214	.	.	.	.	(0.007)	.	.	.	.	.	.	.	32 mm Ø x 17 mm
KUT K9	.	.	.	.	(0.04)	.	.	.	.	.	.	.	30-35 mm Ø x 18 mm
C Fe 9	0.003	0.0001	.	.	.	.	0.3	0.0005	.	.	.	.	40 mm Ø x 30 mm
IARM 218A	0.1	0.0004	.	<0.0001	<0.0001	.	<0.001	0.02	0.02	.	<0.001	<0.001	38 mm Ø x 38 mm
SUS A	.	.	.	.	<0.005	.	.	.	.	.	.	.	44 mm Ø x 150 mm
R N 14	0.05	0.004	0.02	0.002	0.5	.	0.02	0.02	0.14	0.06	.	0.003	40 mm Ø x 40 mm
IARM 217A	0.003	<0.0001	.	0.0001	0.001	.	0.004	0.006	0.01	.	<0.0001	0.005	38 mm Ø x 38 mm
NCS AH21307	0.021	.	.	.	1.17	.	.	.	.	.	.	.	40 mm Ø x 45 mm
NCS AH21308	.	0.0011	.	0.0005	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
Number	As	B	Bi	Ca	Nb	O	Pb	Sb	Ta	Te	Zn	Zr	Units

\* NCS 28301 also contains Al(ins): 0.0049 and Al(sol): 0.0056.



STAINLESS AND HIGH ALLOY STEEL SETTING-UP SAMPLES

typical analysis

Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	Co	Nb	Ti	V	W	N
R N 18	1.3	1.3	.	0.2	0.3	7	11.1	.	.	0.2	<0.01	.	.	.	.	.	.
162X FESUS1	1.1	0.8	0.15	0.35	1.8	0.3	0.5	25.0	0.45	0.05	0.6	1.1	0.05	0.4	0.4	0.2	.
R H 12	0.41	18.65	0.05	<0.001	0.69	0.1	0.32	>2.1	0.12	0.02	<0.01	<0.001	0.04	<0.001	0.04	0.06	.
NCS AH21312	0.297	16.24	0.033	0.117	0.48	0.208	0.43	0.69	0.506	.	2.98	0.032	.	0.045	0.23	0.35	.
KUT K10	0.13	1.77	0.022	0.020	0.88	0.16	11.2	17.5	2.98	.	.	.	0.98	.	.	.	.
BS SU 410	0.124	0.41	0.020	0.008	0.35	0.039	0.098	12.02	0.017	0.004	0.010	0.015	0.003	0.003	0.029	0.004	0.0284
BS 224	0.11	0.60	0.024	0.019	1.32	0.07	0.75	12.8	0.056	0.007	0.013	0.03	0.02	.	0.041	(0.004)	.
R H 34	0.087	8.3	<0.01	0.01	0.35	2.11	19.01	18.58	0.02	<0.01	0.004	0.07	0.34	0.31	0.20	0.08	0.13
BS SU 309	0.077	1.68	0.027	0.0009	0.50	0.26	13.68	22.50	0.30	0.007	0.006	0.13	0.027	.	0.065	.	0.095
SUS E	0.07	1.5	0.006	0.003	0.69	0.01	25.3	14.8	1.3	.	0.21	0.09	<0.1	2.1	0.31	0.04	0.01
R H 31	0.07	0.4	0.01	0.01	0.5	1.8	20.4	16.7	2.5	<0.01	0.004	0.15	0.5	0.01	0.10	0.1	.
BS 10C	0.063	1.74	0.025	0.028	0.45	0.26	8.46	18.23	0.35	0.007	0.003	0.12	0.010	0.002	0.045	0.025	0.0850
KUT K7	0.063	1.44	0.026	0.012	0.89	0.20	10.45	17.8	.	.	.	.	.	0.27	.	.	.
KUT K8	0.061	1.10	0.026	0.017	1.38	(0.18)	.	23.5	.	.	1.53	.	.	.	.	.	.
R H 30	0.06	1.4	0.01	0.01	0.4	0.1	11.9	17.5	2.2	0.004	0.02	0.05	0.6	0.01	0.07	0.05	.
BS SU 347	0.056	1.61	0.030	0.027	0.51	0.16	9.43	17.26	0.39	0.007	0.005	0.05	0.79	.	.	.	0.060
BS SU 321	0.055	1.67	0.016	0.023	0.63	0.21	10.15	17.18	0.22	0.004	0.19	0.16	.	0.45	0.13	.	0.012
NCS AH11333d	0.054	1.23	0.029	0.014	0.577	0.136	8.08	17.34	0.153	.	0.082	.	.	0.399	0.074	.	.
BS 10	0.05	1.10	0.029	0.020	0.43	0.36	8.5	18.1	0.20	0.017	.	0.18	.	.	0.05	0.03	.
C Fe 3	0.05	1.54	0.02	0.02	0.37	0.241	9.92	17.38	2.07	0.02	.	0.322	(0.54)	(0.021)	0.07	.	.
PV 112/1	0.047	1.577	0.018	0.023	0.515	0.102	11.14	17.56	2.03	.	.	.	.	0.394	.	.	.
BS SU 321A	0.046	1.77	0.024	0.020	0.38	0.67	9.09	17.40	0.25	0.008	0.10	0.052	0.014	0.53	0.10	0.04	.
R H 33	0.039	8.8	<0.01	0.02	0.14	1.95	17.45	17.16	0.01	<0.01	0.011	0.025	0.55	0.23	0.055	0.086	.
PV 111/1	0.0226	1.538	0.019	0.026	0.485	0.105	8.57	18.49	0.173	.	.	.	.	.	.	.	.
BS SU 316L	0.021	1.70	0.035	0.025	0.39	0.405	12.27	17.58	2.09	.	0.005	0.21	.	.	0.044	.	0.091
SUS G	0.02	1.5	0.03	0.03	0.22	0.35	11.0	16.9	2.1	0.008	0.003	0.11	<0.001	0.003	0.05	0.06	0.04
SUS F	0.02	0.50	0.02	<0.005	0.26	0.59	7.0	24.7	3.5	<0.001	<0.005	0.01	<0.005	<0.005	0.03	0.62	0.23

Number	As	B	Bi	Ca	Fe	O	Pb	Sb	Ta	Te	Zn	Zr	Units
R N 18	.	.	0.05	.	.	.	0.3	.	.	0.05	.	.	40 mm Ø x 40 mm
162X FESUS1	0.005	.	0.005	.	.	.	0.005	0.015	.	.	0.002	0.04	43 mm Ø x 20 mm
R H 12	0.02	.	.	.	.	.	.	.	.	.	0.02	0.02	40 mm Ø x 40 mm
NCS AH21312	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
KUT K10	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
BS SU 410	.	0.0002	.	0.0002	.	0.0038	.	.	.	.	.	.	40 mm Ø x 40 mm
BS 224	.	.	.	.	.	.	.	.	.	.	.	.	32 mm Ø x 17 mm
R H 34	<0.001	.	.	.	.	.	.	.	.	.	.	0.013	40 mm Ø x 40 mm
BS SU 309	.	0.0030	.	.	.	0.005	.	.	.	.	.	.	44 mm Ø x 40 mm
SUS E	.	0.005	.	.	53.7	.	.	.	.	.	.	.	44 mm Ø x 150 mm
R H 31	<0.001	.	.	.	.	.	.	.	.	.	.	0.014	40 mm Ø x 40 mm
BS 10C	0.004	0.0004	.	0.0007	.	0.0054	.	.	.	.	.	.	41 mm Ø x 150 mm
KUT K7	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
KUT K8	.	.	.	.	.	.	.	.	.	.	.	.	30-35 mm Ø x 39 mm
R H 30	<0.001	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 40 mm
BS SU 347	.	0.0040	.	.	.	0.004	.	.	.	.	.	.	38 mm Ø x 40 mm
BS SU 321	.	.	.	.	.	0.002	.	.	.	.	.	.	39 mm Ø x 40 mm
NCS AH11333d	.	.	.	.	.	.	.	.	.	.	.	.	38 mm Ø x 35 mm
BS 10	.	.	.	.	.	.	.	.	.	.	.	.	37 mm Ø x 150 mm low supply
C Fe 3	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 30 mm or 50 mm
PV 112/1	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 25 mm
BS SU 321A	0.004	0.0005	.	0.0003	.	.	<0.001	<0.01	.	.	.	<0.001	38 mm Ø x 40 mm
R H 33	<0.001	.	.	.	.	.	.	.	.	.	.	0.014	40 mm Ø x 40 mm
PV 111/1	.	.	.	.	.	.	.	.	.	.	.	.	40 mm Ø x 25 mm
BS SU 316L	.	.	.	.	.	0.005	.	.	.	.	.	.	38 mm Ø x 40 mm
SUS G	.	.	.	0.002	.	.	.	<0.002	.	.	.	<0.001	44 mm Ø x 150 mm
SUS F	0.005	0.002	.	.	62.9	.	.	.	.	.	.	.	44 mm Ø x 150 mm

STAINLESS STEEL SETTING-UP SAMPLE SETS

available in SETS only, as grouped																	Sol. = soluble			Ins. = insoluble			typical analysis				35 mm Ø x 20 mm	
Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sol.Al	Ins.Al	As	Co	Nb	Pb	Ta	Ti											
ST D	0.093	1.01	0.007	0.027	0.50	0.019	4.06	27.12	0.051	0.046	0.004	0.14	0.026	0.10	0.014	0.007	0.045											
ST E	0.055	1.45	0.010	0.008	1.57	0.060	14.74	15.71	2.40	0.03	0.002	0.077	0.21	0.41	0.14	0.22	0.15											
ST F	0.016	0.20	0.037	0.004	0.42	0.014	29.86	4.62	0.97	0.023	<0.001	0.002	0.068	1.32	0.001	0.070	0.58											
ST I	0.26	0.21	0.008	0.024	0.19	0.01	0.01	26.78	0.046	0.002	0.004	<0.001	0.003	0.013	.	.	0.010											
ST H	0.088	0.47	0.009	0.010	0.50	0.04	0.57	17.95	0.49	0.031	0.005	0.011	0.054	0.094	.	.	0.094											
ST G	0.031	1.37	0.029	0.005	1.26	0.19	3.87	11.85	1.14	0.086	0.005	0.075	0.19	0.98	.	.	0.30											
KTC-3 21	0.13	0.40	0.003	0.026	0.18	.	4.03	27.02	.	.	.	.	0.003	.	.	.	0.003											
KTC-3 22	0.036	0.57	0.028	0.005	0.39	.	19.85	25.00	.	0.092	0.003	0.001	.	.	.	.	.											
KTC-3 23	0.11	1.60	0.005	0.021	0.82	0.048	9.99	22.17	1.01	0.045	0.003	0.104	.	<0.01	0.005	.	.											
KTC-3 24	0.084	0.78	0.004	0.015	0.58	0.029	13.93	20.20	1.50	0.021	0.002	0.056	.	.	0.013	.	.											
KTC-3 25	0.027	1.42	0.010	0.021	1.43	0.011	8.05	18.32	2.49	0.001	0.001	0.012	0.050	.	0.044	.	.											
KTC-3 26	0.044	1.19	0.021	0.008	1.01	.	17.62	16.18	0.49	0.004	0.002	.	0.21	0.29	.	0.40	0.075											
KTC-3 27	0.057	1.00	0.019	0.011	1.19	.	15.74	13.39	0.008	0.016	0.002	.	0.014	1.53	.	0.24	0.24											
KTC-3 28	0.016	0.23	0.034	0.003	0.12	.	29.62	10.34	.	.	.	.	.	0.72	.	0.060	0.49											
KTC-5 31	0.068	0.51	0.023	0.005	1.24	0.19	3.91	11.23	0.71	0.10	0.003	0.10	0.19	0.90	.	.	0.31											
KTC-5 32	0.040	1.16	0.030	0.007	0.52	0.01	2.56	12.71	1.01	0.013	0.004	0.008	0.014	0.082	.	.	0.051											
KTC-5 33	0.044	0.30	0.008	0.022	0.32	0.10	1.03	15.12	1.19	0.031	0.004	0.001	0.10	0.30	.	.	0.007											
KTC-5 34	0.084	0.99	0.025	0.004	0.78	0.04	0.48	16.99	0.48	0.045	0.006	0.009	0.051	0.083	.	.	0.098											
KTC-5 35	0.22	1.35	0.002	0.029	0.58	<0.01	0.05	24.14	0.029	0.057	0.007	<0.001	0.005	0.007	.	.	0.005											
KTC-5 36	0.15	0.43	0.014	0.009	0.14	<0.01	0.11	22.31	0.043	0.001	0.008	<0.001	0.003	0.001	.	.	0.005											
KTC-5 37	0.11	0.74	0.007	0.019	0.99	<0.01	0.20	19.51	0.20	0.001	0.002	<0.001	0.002	<0.001	.	.	0.003											
KTC-5 38	0.30	0.19	0.010	0.013	0.40	<0.01	0.01	25.52	0.004	0.001	0.002	<0.001	0.002	<0.001	.	.	0.003											

## ALUMINUM IN XRF DISCS

typical analysis

40 mm Ø x 5 mm

Number	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	BaO	Bi <sub>2</sub> O <sub>3</sub>	CaO	Fe <sub>2</sub> O <sub>3</sub>	GeO <sub>2</sub>	K <sub>2</sub> O	MgO	MoO <sub>3</sub>	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	PbO	Sb <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	TiO <sub>2</sub>	V <sub>2</sub> O <sub>5</sub>	WO <sub>3</sub>
ASO TU2	99.6	.	.	.	.	0.1	0.1	.	.	0.1	.	.	.	.	.	0.1	.	.	.
BR CH1	28.0	0.8	20.0	1.0	1.0	.	7.0	0.3	8.0	.	.	6.5	14.0	.	.	9.11	0.1	0.3	1.2
SV C	27.15	0.78	19.23	1.0	0.5	0.03	5.4	0.27	6.9	.	2.0	7.9	15.6	.	.	9.9	0.1	0.26	0.9
BR PC 3	27.1	0.78	19.1	1.0	0.50	0.03	5.4	0.27	6.9	.	2.0	7.9	15.6	.	.	9.9	0.10	0.26	0.90
BR CS1	27.1	0.78	19.23	1.0	0.5	0.03	5.4	0.27	6.9	.	2.0	7.9	15.6	.	.	11.3	0.1	0.26	0.05
FLX PR2	23.69	.	.	.	.	.	.	.	9.02	19.46	.	.	.	2.77	.	.	.	.	3.74
BR CH2/1	23.5	2.8	10.0	.	0.5	16.5	0.9	2.0	0.2	7.7	1.3	9.5	5.5	3.8	2.4	7.5	.	1.7	0.5
BR ACEM	21.68	.	19.88	.	.	10.53	11.93	.	3.14	7.03	.	11.15	0.20	2.0	2.0	9.56	0.20	.	.
FLX PR3	17.68	.	.	.	.	3.16	.	.	.	6.76	.	.	9.72	.	.	41.28	3.32	.	.
FLX S7	15.46	.	.	.	.	10.1	11.52	.	3.14	4.71	.	3.38	0.28	.	.	48.06	2.36	.	.

Number	CdO	Ce <sub>2</sub> O <sub>3</sub>	Cr <sub>2</sub> O <sub>3</sub>	La <sub>2</sub> O <sub>3</sub>	MnO	Mn <sub>2</sub> O <sub>3</sub>	Nb <sub>2</sub> O <sub>5</sub>	Nd <sub>2</sub> O <sub>3</sub>	NiO	Pr <sub>2</sub> O <sub>3</sub>	Rb <sub>2</sub> O	SO <sub>3</sub>	SnO <sub>2</sub>	SrO	U <sub>3</sub> O <sub>8</sub>	ZrO <sub>2</sub>
ASO TU2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR CH1	0.15	.	.	.	0.5	.	0.7	0.5	0.3	0.4	0.04	.	.	.	0.1	.
SV C	0.66	.	.	.	0.47	.	0.6	0.46	0.29	0.2	.	.	.	.	.	.
BR PC 3	0.16	.	.	.	0.47	.	0.60	0.46	0.29	0.20	.	.	.	.	.	.
BR CS1	0.16	.	.	.	0.47	.	.	0.46	0.29	0.2	.	.	.	.	.	.
FLX PR2	.	.	.	.	.	.	.	.	.	.	.	.	1.04	.	.	.
BR CH2/1	.	1.2	.	1.0	.	.	.	0.5	.	.	.	.	.	0.6	.	0.4
BR ACEM	.	.	.	.	.	0.20	.	.	.	.	.	0.50	.	.	.	.
FLX PR3	.	.	1.07	.	.	.	.	.	0.373	.	.	.	.	.	.	.
FLX S7	.	.	.	.	0.234	.	.	.	.	.	.	.	.	.	.	.

## BARIUM IN XRF DISCS

typical analysis

40 mm Ø x 5 mm

Number	BaO	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	CaO	CeO <sub>2</sub>	Cr <sub>2</sub> O <sub>3</sub>	CuO	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Na <sub>2</sub> O	PbO	Sb <sub>2</sub> O <sub>3</sub>	SrO	ZnO	ZrO <sub>2</sub>
BR M 1	62.2	0.2	33.5	1.3	.	.	.	.	2.8	.	0.02	.	.	.	.	.	.	.	.
BR 7/L	45.60	30.60	2.78	0.91	.	9.63	3.23	0.0	.	.	0.03	0.12	.	0.06	0.26	0.62	0.27	5.27	.
BR 4/L	24.70	35.00	2.33	0.70	0.31	4.25	4.77	0.0	.	.	0.02	1.85	0.0	1.08	18.70	0.20	0.22	4.98	0.0
BR G 1	11.6	59.5	0.2	2.2	.	.	1.4	0.2	.	.	.	7.2	0.8	7.2	2.2	0.5	5.4	.	1.4
BR BG18	11.5	78.4	.	.	.	3.5	.	.	.	3.6	.	1.0	.	.	.	.	.	1.0	.

## BORON IN XRF DISCS

typical analysis

40 mm Ø x 5 mm

Number	B <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	CaO	CdO	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	NiO	P <sub>2</sub> O <sub>5</sub>	PbO	SO <sub>3</sub>	Sb <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	SnO	SnO <sub>2</sub>	TiO <sub>2</sub>	ZnO	
BR AN1/1	61.43	22.6	.	0.03	1.04	0.68	0.1	0.83	0.6	.	1.7	0.78	0.4	0.92	0.5	.	3.0	.	.	0.6	1.2	
BR DSH2	45.0	21.80	.	0.71	.	0.68	0.70	0.83	0.60	.	17.82	0.78	0.57	0.92	0.50	.	3.0	.	.	0.60	0.80	
BR DSH1	41.82	21.82	.	0.71	2.0	0.68	0.70	0.83	0.60	2.0	17.0	0.78	0.57	0.92	0.50	.	3.0	.	0.79	0.60	0.80	
BR WR2	40.0	0.1	.	1.1	.	0.1	9.0	5.0	15.0	0.5	10.0	.	0.5	.	0.5	0.5	15.8	.	.	0.5	.	
BR BP2	36.0	20.33	1.0	14.0	.	0.7	.	.	6.0	.	12.0	.	.	.	.	2.0	4.27	.	.	0.33	4.0	
BR MM1	31.10	9.0	.	3.0	.	.	0.50	2.0	5.0	10.0	16.0	2.0	0.50	4.0	0.10	0.50	6.0	.	1.0	3.0	5.0	
BR WR1	30.0	13.0	.	30.0	.	1.5	0.1	2.0	5.0	0.2	5.0	.	0.1	.	0.1	0.5	12.5	.	.	.	.	
BR OS1	26.68	15.11	2.0	14.0	.	.	.	.	13.43	.	10.78	.	5.0	.	.	2.0	5.0	.	.	.	6.0	
SV D	25.2	15.3	2.0	15.0	.	.	0.5	.	9.0	.	10.0	.	5.0	1.0	.	2.0	3.0	.	.	.	5.0	
BR DS1	23.62	20.0	.	14.40	.	.	0.58	0.09	7.4	.	9.6	.	5.8	1.7	.	1.85	6.6	.	.	0.03	3.7	
BR AX3	23.28	18.89	.	7.0	.	.	12.0	3.14	7.03	.	11.15	.	0.2	4.0	0.5	2.0	9.56	.	.	.	.	
BR PD 3	22.2	20.6	1.86	14.4	.	.	0.58	0.09	7.4	.	9.6	.	5.8	1.7	.	1.85	5.48	.	.	0.03	3.7	
BR U 30	22.0	20.0	.	.	.	.	.	.	14.0	.	14.0	.	.	.	.	.	.	.	.	.	.	6.0
BR WIE3/II	21.77	.	.	8.0	.	.	.	10.0	.	.	15.0	12.73	.	10.77	.	2.0	7.28	.	.	.	12.45	
BR KAL	20.79	20.0	.	10.0	.	.	0.01	1.0	15.0	20.0	11.0	.	2.0	.	0.2	1.0	4.0	.	.	.	15.0	
BR WIE3/I	20.0	18.9	.	5.0	.	.	14.3	3.0	.	.	11.0	.	.	.	.	2.0	7.28	11.32	.	.	.	
BR ARL2	20.0	12.0	0.5	0.5	2.0	.	.	.	3.0	25.0	12.0	.	1.0	.	0.5	.	19.4	.	0.5	.	2.0	

Number	Ag <sub>2</sub> O	BaO	Bi <sub>2</sub> O <sub>3</sub>	CuO	CeO <sub>2</sub>	Ce <sub>2</sub> O <sub>3</sub>	Cl	Ga <sub>2</sub> O <sub>3</sub>	GeO <sub>2</sub>	In <sub>2</sub> O <sub>3</sub>	La <sub>2</sub> O <sub>3</sub>	Nb <sub>2</sub> O <sub>5</sub>	MoO	MoO <sub>3</sub>	Se	SrO	Ta <sub>2</sub> O <sub>5</sub>	Te <sub>2</sub> O <sub>3</sub>	V <sub>2</sub> O <sub>5</sub>	WO <sub>3</sub>	ZrO <sub>2</sub>	
BR AN1/1	.	0.89	1.2	0.8	.	.	0.1	.	.	.	.	.	.	.	.	.	.	.	.	0.6	.	.
BR DSH2	.	0.89	1.20	0.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.60	.	.
BR DSH1	0.93	0.89	.	0.80	.	.	0.60	.	.	.	.	.	0.66	.	.	.	.	.	.	.	.	.
BR WR2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.5
BR BP2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR MM1	.	.	0.30	.	.	.	.	.	.	.	.	.	.	.	.	1.0	.	.	.	.	.	.
BR WR1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR OS1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SV D	.	.	1.0	.	1.0	.	.	.	1.5	.	1.0	.	.	1.0	.	.	.	.	1.0	.	.	0.5
BR DS1	.	.	.	.	.	0.84	.	0.46	.	.	0.88	.	.	0.87	.	0.13	.	.	0.86	0.05	.	0.34
BR AX3	.	.	.	1.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR PD 3	.	.	0.18	.	.	0.84	.	0.46	0.41	.	0.88	.	.	0.87	.	0.13	.	.	0.86	0.32	0.34	
BR U 30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR WIE3/II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR KAL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BR WIE3/I	.	.	.	.	.	.	.	.	1.21	.	1.43	.	1.43	.	.	.	.	.	1.8	1.26	.	.
BR ARL2	.	.	0.5	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.1	.	.	.	.	0.5

**CARBONATE IN XRF DISC**

typical analysis 38-40 mm Ø x 5-8 mm

Number	CO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Cl	F	Fe <sub>2</sub> O <sub>3</sub>	MgO	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	SrO
ASO TUD	47.51	0.207	30.28	0.013	<0.01	0.023	21.76	0.046	0.012	0.023	0.093	0.004

**CALCIUM AND FLUORITE IN XRF DISCS**

typical analysis

38-40 mm Ø x 5-8 mm

Number	CaO	CaF <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	Cr <sub>2</sub> O <sub>3</sub>	F	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Mn <sub>2</sub> O <sub>3</sub>	MoO <sub>3</sub>	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	TiO <sub>2</sub>	V <sub>2</sub> O <sub>5</sub>
BR U 33	56	.	0.25	.	.	.	.	0.2	.	.	.	.	.	.	.	.	0.3	.	.
FLX C1	52.45	.	11.39	.	.	.	.	3.0	0.95	1.73	0.183	.	.	1.03	0.212	0.646	19.9	0.185	.
ASO TU29	51.3	.	.	.	.	.	48.7	.	.	.	.	.	.	.	.	.	.	.	.
FLX C2	40.73	.	3.24	.	.	.	.	1.97	0.506	1.38	0.103	.	.	0.576	0.158	0.265	26.65	0.151	.
BR SP1	40.60	.	5.0	.	25.65	.	.	2.0	2.0	8.0	.	.	.	1.0	.	0.05	15.0	.	.
ASO TUA	40.2	.	0.02	.	.	.	.	<0.01	.	0.16	.	.	.	.	.	57.2	1.10	.	.
BR BF2	37.0	.	10.0	.	3.43	.	.	1.0	0.4	8.0	0.77	.	.	.	2.0	0.2	36.0	1.0	.
BR BCEM	35.00	.	4.88	.	2.40	.	.	2.25	0.99	2.37	.	0.01	.	2.12	0.01	0.50	49.15	0.01	.
FLX Z1	31.12	.	0.491	.	.	.	2.8	.	0.114	0.28	1	.	.	5.29	0.213	3.62	15.85	0.102	.
BR SP2	30.0	.	9.0	.	19.50	.	.	5.0	2.0	6.0	.	.	.	2.0	.	0.30	25.0	.	.
BR WR1	30.0	.	13.0	.	30.0	1.5	.	0.1	2.0	5.0	0.2	.	.	5.0	0.1	0.1	12.5	.	.
FLX SP1	28.61	.	.	3.53	.	.	.	2.72	.	.	.	5.37	.	14.84	.	.	45.57	.	3.76
FLX C3	28.1	.	10.77	.	.	.	.	1.99	0.741	2.69	0.138	.	.	2.31	0.522	0.555	19.31	0.2	.
FLX D1	27.31	.	0.328	.	.	.	.	0.38	26.43	0.372	.	.	.	0.571	0.151	.	9.41	0.44	.
FLX Z4	24.93	.	16.07	0.147	.	.	0.37	0.179	0.249	0.70	1	.	.	.	.	.	56.94	0.253	.
BR SS3	24.0	.	17.6	.	16.6	0.2	.	10.5	0.4	4.1	3.5	.	.	.	0.9	.	21.4	0.8	.
FLX Z5	22.67	.	18.16	.	.	0.19	.	9.39	0.41	4.07	2.7	.	.	.	0.89	.	25.63	0.73	.
BR VA2/2	15.0	.	10.0	.	8.7	.	.	12.0	5.0	15.0	4.0	.	.	14.0	3.0	0.1	13.2	.	.
FLX S10	12.15	.	4.25	.	.	.	.	0.285	0.223	2.29	.	.	.	9.09	0.104	.	65.94	0.116	.
BR U 29	.	71.0	.	.	.	.	48	.	.	.	.	.	.	.	.	.	.	.	.
BR WC	.	20.00	25.00	.	.	.	.	0.80	.	5.00	.	.	.	10.00	0.15	.	38.10	0.80	0.15

Number	Cl	Cr <sub>2</sub> O <sub>3</sub>	Sb <sub>2</sub> O <sub>3</sub>	SrO	ZnO
--------	----	--------------------------------	--------------------------------	-----	-----

BR U 33	.	.	.	.	.
FLX C1	.	.	.	0.209	0.0933
ASO TU29	.	.	.	.	.
FLX C2	0.156	.	.	0.119	0.0953
BR SP1	0.20	.	0.50	.	.
ASO TUA	0.01	.	.	0.15	.
BR BF2	.	.	.	.	.
BR BCEM	.	.	0.31	.	.
FLX Z1	0.816	.	.	.	.
BR SP2	0.70	.	0.50	.	.
BR WR1	.	1.5	0.5	.	.
FLX SP1	.	.	.	.	.
FLX C3	0.169	.	.	0.183	0.107
FLX D1	.	.	.	.	.
FLX Z4	.	.	.	.	.
BR SS3	.	0.2	.	.	.
FLX Z5	.	.	.	.	.
BR VA2/2	.	.	.	.	.
FLX S10	.	.	.	.	.
BR U 29	.	.	.	.	.
BR WC	.	.	.	.	.

**CEMENT XRF DISC SET**

AVAILABLE IN SET/4 ONLY

typical analysis

38-40 mm Ø x 5-8 mm

Number	Al <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	CaO	CaCO <sub>3</sub>	CoO	Cr <sub>2</sub> O <sub>3</sub>	F	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	SO <sub>3</sub>	SiO <sub>2</sub>	TiO <sub>2</sub>	ZnO
ASO 1	3	.	6.9	.	0.18	0.27	0.3	0.34	2.9	0.15	6	9.3	0.12	69.3	.	0.8
ASO 2	20	22	.	.	.	.	.	.	.	14	.	14	.	30	.	.
ASO 3	0.07	6	.	.	.	1.5	.	7	13	.	.	4	0.5	66	2	.
ASO 4	.	.	.	97.5	.	.	.	0.2	.	0.6	.	.	.	1.9	.	.

**CLASSIC XRF DISC SET**

available in set/6 or individually

typical analysis

40 mm Ø x 5 mm

Number	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	CaO	BaO	CuO	F	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	PbO	SiO <sub>2</sub>	SrO	TiO <sub>2</sub>	V <sub>2</sub> O <sub>5</sub>	WO <sub>3</sub>	ZnO	ZrO <sub>2</sub>
BR PC 3	27.1	0.78	19.1	0.03	1.0	.	.	5.4	6.9	.	0.47	7.9	15.6	.	9.9	.	0.10	0.26	0.90	.	.
BR PD 3	20.0	1.86	22.2	14.4	1.0	.	.	0.58	0.09	7.4	.	9.6	5.8	1.7	5.48	0.13	0.03	0.86	0.32	3.7	0.34
BR PA 4	15.8	.	4.2	0.83	2.0	.	0.17	1.16	2.16	3.2	20.3	0.13	0.56	.	36.52	0.71	3.9	0.01	.	7.4	0.15
BR PB 2	8.6	.	.	21.0	0.04	0.25	1.4	12.3	0.04	0.23	0.89	0.09	2.1	4.4	41.8	0.008	1.2	.	1.85	0.45	.
BR PE 3	8.5	0.44	4.0	0.60	4.6	0.82	1.3	0.03	0.95	.	6.5	15.3	.	0.45	50.07	0.31	0.02	.	.	0.92	.
BR PF 3	3.85	.	2.0	2.84	0.34	1.8	5.0	0.07	18.3	0.82	.	1.2	.	0.05	56.31	.	0.04	1.7	.	.	0.74

Number	Ag <sub>2</sub> O	Bi <sub>2</sub> O <sub>3</sub>	CdO	Ce <sub>2</sub> O <sub>3</sub>	CoO	Cr <sub>2</sub> O <sub>3</sub>	Cs <sub>2</sub> O	Ga <sub>2</sub> O <sub>3</sub>	GeO <sub>2</sub>	In <sub>2</sub> O <sub>3</sub>	La <sub>2</sub> O <sub>3</sub>	MoO <sub>3</sub>	Nb <sub>2</sub> O <sub>5</sub>	NiO	Pr <sub>2</sub> O <sub>3</sub>	Nd <sub>2</sub> O <sub>3</sub>	Rb <sub>2</sub> O	Sb <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	SnO <sub>2</sub>	Ta <sub>2</sub> O <sub>5</sub>	TeO <sub>2</sub>	Y <sub>2</sub> O <sub>3</sub>
BR PC 3	.	0.50	0.16	.	.	.	.	.	0.27	.	.	2.0	0.60	0.29	0.20	0.46	.	.	.	.	.	.	.
BR PD 3	.	0.18	.	0.84	.	.	.	0.46	0.41	.	0.88	0.87	.	.	.	.	.	1.85	.	.	.	.	.
BR PA 4	.	.	0.39	.	.	0.15	0.04	.	0.08	0.04	.	.	.	.	.	.	0.04	.	.	.	.	0.04	.
BR PB 2	.	.	.	1.62	.	.	.	.	.	.	.	.	0.79	.	.	.	.	.	.	0.92	0.85	0.08	.
BR PE 3	0.13	0.08	.	0.74	0.56	.	.	.	0.09	0.40	.	0.05	1.85	.	.	.	.	0.43	.	0.60	0.05	0.03	0.18
BR PF 3	.	.	0.96	0.39	0.25	0.27	0.13	0.09	.	0.26	.	0.38	.	.	.	.	0.16	0.86	0.18	0.20	0.36	.	0.45

**ELEMENTS IN XRF DISCS**

typical analysis listed in mass % all available individually, also FLX OME also available in SET/9 part number "FLX OME SET" 40 mm Ø x 6 mm

Number	Ag	Al	Ba	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni
FLX O1	0.52	1.93	5.61	4.3	0.53	0.35	0.63	0.90	0.80	0.87	2.82	0.27	1.55	5.26	0.92
FLX OME 5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0010	0.0005	0.0005	0.0005	0.0005	0.0005
FLX OME 10	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	0.0010	0.0010	0.0010	0.0010
FLX OME 25	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0052	0.0026	0.0026	0.0026	0.0026	0.0026
FLX OME 50	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0098	0.0049	0.0049	0.0049	0.0049	0.0049
FLX OME 100	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0195	0.0098	0.0098	0.0098	0.0098	0.0098
FLX OME 250	0.0245	0.0246	0.0246	0.0246	0.0243	0.0245	0.0246	0.0246	0.0246	0.0488	0.0246	0.0246	0.0245	0.0246	0.0246
FLX OME 500	0.0491	0.0492	0.0492	0.0492	0.0487	0.0489	0.0491	0.0492	0.0492	0.0976	0.0492	0.0492	0.0489	0.0492	0.0492
FLX OME 900	0.0883	0.0886	0.0886	0.0885	0.0876	0.0881	0.0884	0.0886	0.0886	0.1756	0.0885	0.0885	0.0881	0.0886	0.0885
FLX OME 2500	0.2454	0.2460	0.2460	0.2458	0.2434	0.2447	0.2456	0.2461	0.2460	0.4878	0.2458	0.2459	0.2447	0.2460	0.2459

Number	P	Pb	S	Si	Sn	Ti	V	Zn
FLX O1	0.58	2.79	0.07	24.75	0.90	0.66	0.63	3.51
FLX OME 5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
FLX OME 10	0.0010	0.0011	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
FLX OME 25	0.0026	0.0028	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026
FLX OME 50	0.0049	0.0053	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049
FLX OME 100	0.0098	0.0105	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098
FLX OME 250	0.0246	0.0263	0.0246	0.0246	0.0246	0.0246	0.0246	0.0246
FLX OME 500	0.0492	0.0527	0.0492	0.0492	0.0492	0.0492	0.0492	0.0492
FLX OME 900	0.0886	0.0948	0.0886	0.0885	0.0886	0.0885	0.0886	0.0885
FLX OME 2500	0.2462	0.2633	0.2460	0.2459	0.2461	0.2459	0.2460	0.2459

**CRM GLASS XRF DISCS AND PLATES**

analysis listed in mass % typical analysis

Number	Type	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	BaO	CaO	CdO	FeO	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Na <sub>2</sub> O	SO <sub>3</sub>	SrO	TiO <sub>2</sub>	ZnO
SRM 93a	Borosilicate	80.8	2.28	12.56	.	0.01	.	0.016	0.028 (T.Fe)	0.014	0.005	3.98	.	.	0.014	.
SRM 1831	Soda-Lime Sheet	73.08	1.21	.	.	8.20	.	0.025	0.087 (T.Fe)	0.33	3.51	13.32	0.25	.	0.019	.
SRM 1830	Soda-Lime Float	73.07	0.12	.	.	8.56	.	0.032	0.121 (T.Fe)	0.04	3.90	13.75	0.26	.	0.011	.
SRM 620	Soda-Lime Flat	72.08	1.80	.	.	7.11	.	.	0.043	0.41	3.69	14.39	0.28	.	0.018	.
SRM 621	Soda-Lime Container	71.13	2.76	.	0.12	10.71	.	.	0.040	2.01	0.27	12.74	0.13	.	0.014	.
SRM 1411	Soft Borosilicate	58.04	5.68	10.94	5.00	2.18	.	.	0.050	2.97	0.33	10.14	.	0.09	0.02	3.85
SRM 1412	Multicomponent	42.38	7.52	4.53	4.67	4.53	4.38	.	(0.031)	4.14	(4.69)	4.69	.	4.55	.	4.48

continued

Number	As <sub>2</sub> O <sub>3</sub>	Cl	Li <sub>2</sub> O	PbO	ZrO <sub>2</sub>	Units
SRM 93a	.	0.060	.	.	0.042	1 Disc 32 mm Ø x 6 mm
SRM 1831	.	.	.	.	.	3 Plates 37 mm x 37 mm x 3 mm
SRM 1830	.	.	.	.	.	3 Plates 32 mm x 32 mm x 6 mm
SRM 620	0.056	.	.	.	.	3 Plates 35 mm x 35 mm x 3 mm
SRM 621	0.030	.	.	.	0.007	3 Discs 38 mm Ø x 5 mm
SRM 1411	.	.	.	.	.	10 Plates 32 mm x 32 mm x 3 mm
SRM 1412	.	.	(4.50)	4.40	.	8 Plates 32 mm x 32 mm x 3 mm

**NEODYMIUM IN XRF DISCS**

typical analysis 38-40 mm Ø x 5-8 mm

Number	Nd <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	BaO	CaO	F	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Na <sub>2</sub> O	PbO	Pr <sub>2</sub> O <sub>3</sub>	SO <sub>3</sub>	Sb <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	TiO <sub>2</sub>	ZnO
ASO TU36	45.0	.	12.0	.	.	.	.	.	.	3.0	1.5	.	.	37.5	1.0	.
BR U 38	2.5	1.2	.	5.3	0.5	0.04	7.5	0.07	9.2	.	.	0.11	0.2	72.0	.	1.1

**PHOSPHORUS IN XRF DISCS**

typical analysis 40 mm Ø x 5-6 mm

Number	P <sub>2</sub> O <sub>5</sub>	Al <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	BaO	CaO	Cl	CoO	Cr <sub>2</sub> O <sub>3</sub>	F	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	MoO <sub>3</sub>	Na <sub>2</sub> O	NiO	SO <sub>3</sub>	SiO <sub>2</sub>	TiO <sub>2</sub>	V <sub>2</sub> O <sub>5</sub>	ZnO
BR UG5	67.88	6.0	.	11.0	.	.	8.99	.	.	.	3.7	.	.	.	.	2.43	.	.	.	.	.
BR HPII	30.0	25.0	20.0	.	.	.	.	.	.	.	5.0	.	.	.	10.0	.	.	10.0	.	.	.
FLX R5	18.61	0.195	.	5.87	0.11	1.01	.	.	.	.	4.19	.	4.22	6.18	13.47	.	.	42.04	.	2.94	5.9
FLX PR3	9.72	17.68	.	.	3.16	.	.	.	1.07	.	.	6.76	.	.	.	0.373	.	41.28	3.32	.	.
FLX Z2	7.42	8.3	.	.	8.27	0.133	.	0.317	0.97	2.11	2.28	7.46	0.484	.	0.737	.	0.117	29.58	1.07	.	0.105

**LEAD IN XRF DISCS**

typical analysis 40 mm Ø x 5 mm

Number	PbO	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	BaO	CaO	CdO	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	ZnO
BR SF6	71.5	.	0.3	.	.	.	.	.	2.0	.	.	1.0	.	.	25.2	.
BR SF1	62.2	.	0.5	.	.	.	.	.	3.2	.	.	.	.	.	34.1	.
BR AK2	50.0	.	.	.	1.0	1.0	1.0	.	0.50	.	.	10.0	4.0	0.67	30.83	1.00
BR VA1	50.0	0.5	.	20.96	.	2.79	.	4.27	0.1	3.31	0.64	0.4	0.23	0.3	1.2	15.0
BR H 1	23.5	4.00	.	.	.	3.8	.	.	8.7	2.6	.	6.2	.	.	51.1	.



## MULTI-ELEMENT XRF DISCS

typical analysis

40 mm Ø x 5-6 mm

Number	Ag <sub>2</sub> O	Al <sub>2</sub> O <sub>3</sub>	As <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	BaO	Bi <sub>2</sub> O <sub>3</sub>	Br	CaO	CdO	CeO <sub>2</sub>	Ce <sub>2</sub> O <sub>3</sub>	Cl	CoO	Co3O4	Cr <sub>2</sub> O <sub>3</sub>	Cs <sub>2</sub> O
BR AS1	.	15.8	0.05	3.22	.	.	.	0.83	0.39	.	.	.	.	.	0.15	0.04
BR CH3	0.5	15.0	0.5	5.0	5.0	0.08	.	0.6	.	.	.	.	1.0	.	0.6	0.05
FLX CH3	0.56	13.59	0.53	.	5.51	2.07	.	0.59	.	.	.	.	.	0.93	0.64	0.05
BR ES1	0.13	13.2	0.2	1.1	4.6	0.08	.	0.60	.	.	.	.	0.74	.	0.56	.
BR PE 3	0.13	8.5	0.44	4.0	4.6	0.08	.	0.60	.	.	.	.	0.74	.	0.56	.
FLX S6M	.	6.15	0.129	.	1.68	.	.	4.74	0.26	0.417	.	.	.	0.552	0.352	.
FLX S13	0.265	4.24	0.195	.	1.38	2.09	0.426	5.99	0.523	0.451	.	0.403	.	0.532	0.438	.
FLX S5	.	4.11	.	.	0.84	2.26	.	4.6	0.339	0.409	.	.	.	0.418	0.427	.
BR F 3 *	.	3.85	.	2.0	0.34	.	.	2.84	0.96	.	0.39	.	0.25	.	0.27	0.13
BR PF 3	.	3.85	.	2.0	0.34	.	.	2.84	0.96	.	0.39	.	0.25	.	0.27	0.13
BR FS1	.	3.85	.	2.0	0.34	.	.	2.84	0.2	.	0.39	.	0.25	.	0.27	0.13
BR CH4/1	.	3.0	.	2.65	0.30	.	.	4.00	1.00	.	0.40	.	0.50	.	0.10	0.15
BR WIE2	0.54	1.89	0.66	5.0	2.0	0.56	.	3.0	0.57	.	.	.	1.27	.	1.46	.
BR WIE1/1	0.11	0.19	0.13	9.05	2.0	0.11	.	3.0	0.12	.	.	.	0.13	.	0.15	.
Number	CuO	Dy <sub>2</sub> O <sub>3</sub>	Er <sub>2</sub> O <sub>3</sub>	F	Fe <sub>2</sub> O <sub>3</sub>	Ga <sub>2</sub> O <sub>3</sub>	Gd <sub>2</sub> O <sub>3</sub>	GeO <sub>2</sub>	HfO <sub>2</sub>	In <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	La <sub>2</sub> O <sub>3</sub>	MgO	MnO	MnO <sub>2</sub>	MoO <sub>3</sub>
BR AS1	.	.	.	0.17	1.16	.	.	0.08	.	0.04	2.16	.	3.20	20.3	.	.
BR CH3	0.3	.	.	.	.	1.0	.	.	.	0.1	2.0	0.3	0.1	12.0	.	.
FLX CH3	0.33	.	.	.	.	1.19	.	.	.	0.11	1.73	0.25	0.18	10.17	.	.
BR ES1	0.25	.	.	1.3	0.03	.	.	.	.	0.09	2.7	0.40	.	6.2	.	.
BR PE 3	0.82	.	.	1.3	0.03	.	.	.	.	0.09	0.95	0.40	.	6.5	.	.
FLX S6M	0.434	0.241	0.274	.	0.499	.	0.17	.	0.378	.	3.34	0.371	1.5	0.235	.	0.507
FLX S13	0.507	0.313	0.244	1.03	0.53	.	0.302	0.114	0.313	0.325	5.46	0.515	2.13	0.503	.	0.236
FLX S5	0.412	.	.	0.89	0.478	.	.	.	.	.	3.95	0.426	1.68	0.382	.	0.43
BR F 3 *	1.8	.	.	5.0	0.07	0.09	.	.	(0.01)	0.26	18.3	.	0.82	.	.	.
BR PF 3	1.8	.	.	5.0	0.07	0.09	.	.	(0.01)	0.26	18.3	.	0.82	.	.	.
BR FS1	1.8	.	.	2.9	0.07	0.09	.	.	.	0.26	18.4	.	0.82	.	.	.
BR CH4/1	2.00	.	.	.	0.10	0.10	.	.	.	0.40	20.00	.	1.00	.	.	0.20
BR WIE2	2.5	.	.	.	2.86	.	.	.	.	.	5.0	.	1.66	.	3.16	.
BR WIE1/1	0.13	.	.	.	0.15	.	.	.	.	0.12	12.0	.	0.17	.	0.16	0.15
Number	Na <sub>2</sub> O	Nb <sub>2</sub> O <sub>5</sub>	Nd <sub>2</sub> O <sub>3</sub>	NiO	P <sub>2</sub> O <sub>5</sub>	PbO	Pr <sub>2</sub> O <sub>3</sub>	Pr <sub>6</sub> O <sub>11</sub>	Rb <sub>2</sub> O	S	SO <sub>3</sub>	Sb <sub>2</sub> O <sub>3</sub>	Sc <sub>2</sub> O <sub>3</sub>	Se	SiO <sub>2</sub>	Sm <sub>2</sub> O <sub>3</sub>
BR AS1	0.13	.	.	.	0.58	0.5	.	.	0.04	.	.	.	.	.	38.9	.
BR CH3	16.0	.	.	2.0	0.6	0.5	0.15	.	.	.	.	0.4	.	.	31.83	.
FLX CH3	17.39	.	.	2.04	0.60	0.48	.	0.18	.	.	.	0.42	.	.	36.76	.
BR ES1	14.6	0.05	.	1.85	.	0.3	.	.	.	.	.	0.43	.	.	48.03	.
BR PE 3	15.3	0.05	.	1.85	.	0.45	.	.	.	(0.01)	.	0.43	.	.	50.07	.
FLX S6M	9.17	0.871	0.253	0.473	0.65	1.86	.	0.206	.	.	0.194	.	.	.	48.74	0.136
FLX S13	8.4	0.339	0.404	0.508	0.531	1.94	.	0.289	0.107	.	0.431	0.207	0.109	.	50.21	0.302
FLX S5	10.04	0.615	.	0.444	0.453	2.64	.	.	.	.	.	.	.	.	54.36	.
BR F 3 *	1.2	0.38	.	.	.	0.05	.	.	0.16	(0.01)	.	0.86	.	.	56.31	0.18
BR PF 3	1.2	0.38	.	.	.	0.05	.	.	0.16	(0.01)	.	0.86	.	.	56.31	0.18
BR FS1	1.2	0.38	.	.	.	0.05	.	.	0.16	.	.	0.25	.	.	59.6	0.18
BR CH4/1	0.80	0.10	.	.	.	0.10	.	.	0.20	.	.	1.00	.	.	56.00	.
BR WIE2	14.0	.	.	2.55	1.15	2.15	.	.	.	.	1.25	0.6	.	0.5	38.95	.
BR WIE1/1	17.0	0.14	.	0.13	0.23	0.11	.	.	.	.	0.25	0.12	.	0.10	53.10	.
Number	SnO	SnO <sub>2</sub>	SrO	Ta <sub>2</sub> O <sub>3</sub>	Ta <sub>2</sub> O <sub>5</sub>	Te	TeO2	ThO <sub>2</sub>	TiO <sub>2</sub>	UO <sub>3</sub>	V <sub>2</sub> O <sub>5</sub>	WO <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>	Yb <sub>2</sub> O <sub>3</sub>	ZnO	ZrO <sub>2</sub>
BR AS1	.	.	0.71	.	.	.	0.04	0.04	3.9	0.01	0.01	.	.	.	7.4	0.15
BR CH3	.	0.8	0.1	.	0.05	.	.	0.44	1.0	.	.	.	0.2	.	1.8	.
FLX CH3	.	0.86	0.08	.	0.03	.	.	0.5	1.03	.	.	.	0.18	.	1.82	.
BR ES1	.	0.6	0.31	.	0.05	.	0.03	0.44	0.8	.	0.2	.	0.18	.	0.15	.
BR PE 3	.	0.60	0.31	.	0.05	.	0.03	.	0.02	.	.	.	0.18	.	0.92	.
FLX S6M	.	0.597	1.04	.	0.582	.	.	.	5.02	.	0.506	.	0.296	0.27	1.19	0.582
FLX S13	.	0.504	1.07	.	0.523	.	0.527	.	0.557	.	0.501	0.401	0.211	0.22	1.05	0.552
FLX S5	.	0.451	0.783	.	0.431	.	.	.	0.476	.	0.451	0.414	.	.	0.908	0.453
BR F 3 *	.	0.20	.	.	0.36	.	.	.	0.04	.	1.7	.	0.45	.	.	0.74
BR PF 3	.	0.20	.	.	0.36	.	.	.	0.04	.	1.7	.	0.45	.	.	0.74
BR FS1	.	0.2	.	.	0.36	.	.	.	0.04	.	1.7	.	0.45	.	.	0.74
BR CH4/1	.	0.20	.	0.50	.	.	.	.	2.00	.	0.70	0.10	0.60	.	0.80	1.00
BR WIE2	2.27	.	.	.	.	0.5	.	.	0.83	.	.	.	.	.	2.49	0.68
BR WIE1/1	0.11	.	.	.	.	0.10	.	.	0.17	.	0.18	0.13	.	.	0.12	0.14

\* BR F 3 is last of stock, to be replaced with BR PF 3









## AUSMON XRF DRIFT MONITORS (wavelength dispersive XRF)

The monitors listed below have been formulated so that they have appropriate count rates for different ores and products. The monitors contain little flux and most have been in use for many years and have given excellent stability.

The monitor discs are 40mm diameter and about 4mm high. The monitors are polished flat so that they can be mounted precisely and are easily cleaned. The following types for wavelength dispersive XRF are available:

### AUSMON Bauxite

Suitable with bauxites and other materials with high Aluminum and contain **Fe, Si, Al, Ca, F, Na, Mg, P, S, Cl, K, Ti, V, Cr, Mn, Co, Ni, Cu, Zn, As, Br, Sn, and Ga.** (24 elements)

### AUSMON Cement A

Suitable when making detailed analyses of cements or other materials with high Calcium and contain **Ca, Si, Al, Mg, Fe, Na, Cl, S, F, P, K, Ti, Cr, Mn, Zn, Sr, Br, Ba, and Pb.** (19 elements)

### AUSMON Cement B

This 40mm monitor has fewer trace elements than Cement A and is designed for on line analysis using wavelength or energy dispersive spectrometers. It contains **Na, Mg, Al, Si, P, Cl, K, Ca, and Fe.** (9 elements)

### AUSMON Iron Ore

Suitable with iron ores and related materials, containing **Fe, Si, Al, Ca, F, Na, Mg, P, S, Cl, K, Ti, V, Cr, Mn, Co, Ni, Cu, Zn, As, Br, Sn, Cd, Sb, Bi, Mo, Ba, and Pb.** (28 elements)

### AUSMON Manganese Ore

Suitable with manganese ores and contain: **Mn, Fe, Si, Na, Mg, Al, P, K, Ca, Ti, V, Sr, Br, Ba, and Pb.** (15 elements)

### AUSMON Mineral Sands

Suitable with mineral sand products, including but not limited to ilmenite, rutile, zircon, monazite and xenotime. The following elements are present: **Ti, Fe, Zr, Si, Y, La, Ce, Nd, Pr, Yb, P, F, Na, Mg, Al, S, Cl, K, Ca, Sc, V, Mn, Cr, Co, Ni, Cu, Zn, Br, As, Sr, Nb, Mo, Cd, Sn, Ba, Hf, Pb, Th, and U.** (39 elements)

### AUSMON Nickel Ore

Suitable with nickel ores and related materials, containing **Ni, Fe, S, Si, F, Na, Mg, Al, P, Cl, K, Ca, Ti, Mn, Cr, Co, Cu, Zn, As, Se, Br, Mo, Ag, Pb, and Bi.** (25 elements)

### AUSMON Rare Earths

Suitable with monazite, xenotime and other rare earth minerals for the rare earth oxides. The following elements are present: **La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, P, F, Na, Mg, Al, Si, S, Cl, K, Ca, Sc, Ti, Mn, Fe, Ni, Br, Sr, Zr, Nb, Ba, Hf, Pb, Th, and U.** (39 elements)

### AUSMON Silicates

These monitors were designed for the analysis of rocks, soils and related materials. They can also be used as general purpose monitors for a wide range of materials, eg. vegetables, etc. They contain the following elements as majors: **Fe, Mn, Ti, Ca, K, Cl, S, P, Si, Al, Mg, Na and F.** In addition about 2000ppm of each of the following are present: **Sc** (1000ppm), **V, Cr, Co, Cu, Ni, Zn, Ga, Ge, Se, As, Rb, Sr, Br, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, Te, Cs, Ba, La, Ce, Nd, Pr, Gd, Sm, Yb, Hf, Ta, W, Bi, Tl, Pb, Th, and U.** (53 elements)

### AUSMON Sulfides

These monitors are for use with lead, zinc, iron and copper sulphides, as ores, concentrates and related products. They contain: **Pb, Zn, Fe, Cu, S, F, Na, Mg, Al, Si, P, K, Ca, Cl, Ti, Co, Ni, Cr, Mn, As, Sr, Se, Ag, Cd, Sn, Sb, Ba, Te, Tl, Mo, U, and Bi.** (32 elements)

## AUSMON XRF DRIFT MONITORS (energy dispersive XRF)

The monitors listed below have been formulated so that they have appropriate count rates for different ores and products. The monitors contain little flux and most have been in use for many years and have given excellent stability.

The monitor discs (except AUSMON Cement B) are 32mm diameter and about 4mm high. The monitors are polished flat so that they can be mounted precisely and are easily cleaned. The following types for energy dispersive XRF are available:

### AUSMON MCACAL

Intended for the energy dispersive XRF system, this monitor contains the following elements: **F, Na, Mg, Si, Cl, Ca, V, Zn, As, Fe, Y, Mo, Cd, Ba.** (14 elements)

### AUSMON Mon A

This is intended as a drift monitor with the following elements: **Mg, Si, P, W, Pb, Sn.** (6 elements)

### AUSMON Mon B

This is a drift monitor with the following elements: **Na, Al, Si, Ca, Ti, Cr, and Ni.** (7 elements)

### AUSMON Cement B

This 40mm monitor has fewer trace elements than Cement A and is designed for on line analysis using wavelength or energy dispersive spectrometers. It contains **Na, Mg, Al, Si, P, Cl, K, Ca, and Fe.** (9 elements)

## AUSMON SPECIALS

Monitor discs can be made to suite needs not covered by the above. Very often this is for laboratories performing analysis on materials that do not have long term stability and so they cannot use a similar product as a monitor, eg aqueous liquids or liquids from the petroleum industry. Cl in brine, Ca in milk, Cl, Br, and trace elements in synthetic rubbers are some common examples for which custom monitors have been made.