

Sample numbers, designations, and nominal compositions of the Mg-matrix (Table A1) and Fe-matrix (Table A2) calibration standards used in this work

Table A1:

No.	Designation	Al	B	C	Ca	Co	Cr	Cu	Fe	Mn	Mo	N	Ni	P	S	Si
1	100Fe	0.01000		0.01000			0.03000	0.01000	99.719	0.10000	0.01000		0.03000	0.00500	0.00600	0.06000
2	1Al1Ni	1.47000	0.00900	0.12000			0.09000	0.15700	96.773	0.25700		0.00250	0.83700	0.04000	0.03800	0.16200
3	1B19Cr1Mn10Ni		0.92360	0.01640		0.14750	18.61000	0.20280	67.408	1.47800	0.24730	0.01940	10.35000	0.02670	0.00140	0.56890
4	9Cr			0.06200			9.07000	0.08500	89.513	0.35000			0.10000	0.01800	0.02200	0.42000
5	1Mn	0.04360		0.11300	0.00210		0.01890	0.02190	98.112	1.35000	0.00300		0.01980	0.01890	0.00090	0.26280
6	12Cr			0.05000		0.01700	12.36000	0.03600	86.053	0.41000	0.11700	0.03300	0.23000	0.01800	0.01100	0.62000
7	5Al22Cr	5.33300	0.00020	0.01540		0.01870	22.32000	0.03820	71.497	0.26780	0.01860		0.17170	0.01520	0.00022	0.29850
8	17Co29Ni	0.07000	0.00100	0.00700	0.00050	17.00000	0.01200	0.02800	52.900	0.18000	0.01000		29.40000	0.00200	0.00070	0.17000
9	9Co5Mo18Ni	0.14000	0.00230	0.00400		9.22000	0.12000	0.22000	66.354	0.03100	4.82000	0.00200	18.40000	0.00400	0.00070	0.03200

Table A2:

No.	Designation	Al	Ca	Ce	Cu	Fe	Mg	Mn	Ni	Si	Zn
10	AXZ921	8.75000	1.87000				88.462	0.27100			0.64700
11	AZ91D	8.22000	0.00560	0.00300		0.005	90.900	0.12000		0.01400	0.68000
12	AZ91S	8.32000	0.00460	0.00000		0.002	90.750	0.24000		0.02500	0.60000
13	AMS501	5.16000			0.01730	0.006	93.272	0.41000	0.00290	0.92000	0.21000

14	AM60B	5.75000	0.00360	0.00000		0.003	93.910	0.25000		0.00740	0.01000
15	AM50D	4.80000	0.00550	0.00200		0.003	94.850	0.25000		0.01400	0.04200
16	AM50S	4.50000	0.00450	0.00100		0.004	94.930	0.32000		0.01800	0.18000
17	AS21	2.35000	0.00600	0.00000		0.001	96.610	0.19000		0.74000	0.04400
18	AZ51	4.45000	0.00370	0.00000		0.003	95.180	0.28000		0.01100	0.02100
19	AZ31	2.85000	0.03400	0.00000		0.010	96.170	0.00320		0.00310	0.88000
20	Ce3	0.00300		3.19000	0.08000		96.384	0.03300	0.00100	0.00200	