

HITACHI
Inspire the Next

Spark - mode

(*) with UVTouch probe SUB 305: N with UVTouch only
** on request

Values in grey: curve created with standards of a different alloy group / only low number of standards / without primary standards.

The measured values of those elements are less confident and should be doublechecked with customer samples before giving any performance guarantees.

Arc - mode

[illegible]

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range Ni Base for "PMI-MASTER Pro2"

		Ni 100 low alloy		Ni 200 Monel		Ni 300 Nimonic		Ni 400 Incoloy		Ni 500 Inconel		Ni 600 Hastelloy		Ni 700 Marmaloy		Ni 000 Orientation	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Al	Aluminium	0.002	0.2	0.002	4.2	0.002	8	0.002	7	0.002	2	0.002	0.45	1	8	0.005	7
B*	Boron	-	-	-	-	0.0002	0.05	0.001	0.5	0.001	1.5	0.0005	3.5	0.001	1	0.001	1.5
B	Boron	-	-	-	-	-	-	-	-	-	-	0.5	3.5	-	-	-	-
C*	Carbon	0.002	0.25	0.002	0.5	0.002	0.3	0.002	0.35	0.002	0.25	0.002	0.5	0.002	0.5	0.002	1
C	Carbon	0.005	0.25	0.005	0.5	0.005	0.3	0.005	0.35	0.005	0.25	0.005	0.5	0.005	0.5	0.02	1
Co	Cobalt	0.002	1	0.002	0.5	5	23	0.002	12	0.002	17	0.002	4	0.002	22	0.002	38
Cr	Chromium	0.002	0.5	0.002	1	5	25	5	30	0.002	35	0.002	30	1	25	0.002	35
Cu	Copper	0.002	0.5	15	35	0.002	1	0.002	3	0.002	2.5	0.002	2.5	0.002	0.1	0.005	35
Fe	Iron	0.002	60	0.002	3.5	0.002	50	0.002	55	0.002	35	0.002	22	0.002	1.5	0.002	60
Hf	Hafnium	0.005	1	-	-	0.0045	2.196	-	-	-	-	-	-	0.005	2.2	0.005	2
Mg	Magnesium	-	-	0.001	0.2	0.001	0.05	0.001	0.002	-	-	0.001	0.2	0.001	0.2	0.001	0.2
Mn	Manganese	0.002	1	0.002	3.4	0.005	1	0.002	1.8	0.003	1	0.002	3	0.002	0.5	0.005	3
Mo	Molybdenum	0.002	1	0.005	-	0.002	12	0.002	14	0.003	12	0.003	35	0.002	7	0.005	40
Nb	Niobium	0.002	0.25	0.005	-	0.002	0.3	0.003	8	0.003	6.5	0.002	1	0.002	3.3	0.005	8
P*	Phosphor	-	-	0.005	0.05	0.0051	0.1	0.0051	0.1	0.0051	0.1	0.0051	0.1	0.0051	0.1	0.0051	0.1
S*	Sulphur	-	-	0.005	0.075	0.005	0.075	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1
Si	Silicon	0.003	1	0.003	5	0.003	1.3	0.003	3	0.005	2.5	0.002	7	0.002	0.5	0.005	7
Sn*	Tin	-	-	-	-	0.002	0.1	0.001	1	-	-	0.002	0.75	-	-	0.001	1
Ta	Tantalum	-	-	-	-	0.01	4.5	0.005	5	0.005	4.5	0.005	0.78	0.005	7.5	0.005	5
Ti	Titanium	0.002	1	0.002	1.7	0.002	6	0.002	4	0.003	3.5	0.005	0.5	0.002	4.5	0.002	6
V	Vanadium	0.002	0.25	-	-	0.002	1	0.002	1	0.003	0.25	0.002	1	0.002	1	0.002	1.2
W	Tungsten	-	-	-	-	0.025	0.5	0.015	4.5	0.015	4	0.025	15	0.015	13	0.025	13
Zr	Zirconium	-	-	-	-	0.002	0.3	0.002	0.18	-	-	-	-	0.002	0.5	0.001	0.5
Ni	Nickel	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard

(*) with UVTouch probe

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range AI Base for "PMI-MASTER Pro2"

		AI 000	
		AI-Orientation	
		Min	Max
Ag	Silver	0.001	1.1
B	Boron	0.001	0.025
Be	Beryllium	0.001	0.15
Bi	Bismuth	0.01	0.65
Ca	Calcium	0.001	0.02
Cd	Cadmium	0.003	0.35
Ce	Cerium	0.005	0.05
Co	Cobalt	0.002	0.5
Cr	Chromium	0.001	0.7
Cu	Copper	0.002	9
Fe	Iron	0.001	2.2
Ga	Gallium	0.001	0.12
Hg	Mercury	0.005	0.08
In	Indium	0.005	0.15
La	Lanthanum	0.005	0.035
Mg	Magnesium	0.001	12
Mn	Manganese	0.001	1.8
Ni	Nickel	0.005	3.6
Pb	Lead	0.005	1.6
Si	Silicon	0.005	25
Sn	Tin	0.005	0.5
Sr	Strontium	0.001	0.15
Ti	Titanium	0.001	0.3
V	Vanadium	0.0025	0.15
Zn	Zinc	0.015	12
Zr	Zirconium	0.002	0.3
Al	Aluminium		

CALIBRATION RANGE

PMI-MASTER Pro2

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SUB-Programs - Calibration range Cu Base for "PMI-MASTER Pro2"

		Cu U 000		Cu U 100		Cu 000		Cu 100	
		Cu-Orientation(*)		Cu-Be/Co/Ag(*)		Cu-Orientation		Cu-Be/Co/Ag	
		Min	Max	Min	Max	Min	Max	Min	Max
Ag	Silver	0.001	1	0.001	2	0.001	1	0.001	2
Al	Aluminium	0.001	12.5	0.002	0.13	0.001	12.5	0.002	0.13
As	Arsenic	0.005	0.5	-	-	0.01	0.5	-	-
Be	Beryllium	0.001	1	0.0005	2.6	0.001	1	0.0005	2.6
Bi	Bismuth	0.002	6.5	-	-	0.005	6.5	-	-
Cd	Cadmium	0.002	1.3	-	-	0.002	1.3	-	-
Co	Cobalt	0.002	3.6	0.004	3.6	0.002	3.6	0.004	3.6
Cr	Chromium	0.001	3	0.001	0.2	0.001	3	0.001	0.2
Fe	Iron	0.003	7	0.003	0.2	0.003	7	0.003	0.2
Mg	Magnesium	0.0005	0.2	-	-	0.0005	0.2	-	-
Mn	Manganese	0.001	14	0.002	0.1	0.001	14	0.002	0.1
Ni	Nickel	0.001	40	0.002	0.5	0.001	40	0.002	0.5
P	Phosphorous	0.003	0.8	-	-	-	-	-	-
Pb	Lead	0.005	22	0.005	0.5	0.025	22	0.025	0.5
S	Sulphur	0.001	0.2	-	-	-	-	-	-
Sb	Antimony	0.01	0.5	-	-	-	-	-	-
Se	Selenium	0.003	1	-	-	0.003	1	-	-
Si	Silicon	0.004	8	0.005	0.2	0.004	8	0.005	0.2
Sn	Tin	0.002	18	0.002	0.5	0.002	18	0.002	0.5
Ti		-	-	-	-	0.001	0.065	-	-
Zn	Zinc	0.02	45	0.015	0.5	0.02	45	0.015	0.5
Zr	Zirconium	0.001	0.06	-	-	0.001	0.06	-	-
Cu	Copper	Internal	Standard	Internal	Standard	Internal	Standard	Internal	Standard

CALIBRATION RANGE

PMI-MASTER Pro2

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SUB-Programs - Calibration range Zn Base for "PMI-MASTER Pro2"

		Zn 000	
		Zn-Orientation	
		Min	Max
Al	Aluminium	0.005	35
Cd	Cadmium	0.005	0.6
Cu	Copper	0.005	6.5
Fe	Iron	0.005	2
Mg	Magnesium	0.005	0.25
Mn	Manganese	0.001	0.12
Ni	Nickel	0.005	0.05
Pb	Lead	0.01	3
Sn	Tin	0.01	2.5
Zn	Zinc	Internal	Standard

It is strictly recommended to use an additional spark probe in order to avoid contamination and memory effects of Zn in other base materials!

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range Ti Base for "PMI-MASTER Pro2"

		Ti 000	
		Ti Global	
		Min	Max
Al	Aluminium	0.01	8.5
Cr	Chromium	0.005	4.5
Cu	Copper	0.01	3
Fe	Iron	0.005	2.5
Mn	Manganese	0.01	5.5
Mo	Molybdenum	0.01	7.5
Nb	Niobium	0.01	8
Ni	Nickel	0.015	1
Pd	Palladium	0.01	0.18
Ru	Ruthenium	0.01	0.12
Si	Silicon	0.015	0.7
Sn	Tin	0.025	13
Ta	Tantalum	0.0075	1.1
V	Vanadium	0.04	18
W	Tungsten	0.02	1
Zr	Zirconium	0.01	5.5
Ti	Titanium	Internal	Standard

CALIBRATION RANGE

PMI-MASTER Pro2

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SUB-Programs - Calibration range Co Base for "PMI-MASTER Pro2"

		Co 000	
		Co Global	
		Min	Max
Al	Aluminium	0.002	1.6
C	Carbon	0.005	2.75
Cr	Chromium	10	40
Cu	Copper	0.002	0.2
Fe	Iron	0.003	26
Mn	Manganese	0.003	2.2
Mo	Molybdenum	0.005	9
Nb	Niobium	0.005	2.5
Ni	Nickel	0.015	27
Si	Silicon	0.01	1.75
Sn	Tin	0.005	0.15
Ta	Tantalum	0.025	0.15
Ti	Titanium	0.003	0.5
W	Tungsten	0.025	18
Co	Cobalt	Internal	Standard

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range Pb Base for "PMI-MASTER Pro2"

		Pb 000	
		Pb Global	
		Min	Max
Ag	Silver	0.001	0.3
Al	Aluminium	0.001	0.03
As	Arsenic	0.005	0.8
Bi	Bismuth	0.005	0.2
Ca	Calcium	0.001	0.24
Cd	Cadmium	0.001	0.3
Cu	Copper	0.001	0.5
Sb	Antimony	0.005	30
Sn	Tin	0.001	65
Zn	Zinc	0.001	0.06
Pb	Lead	Internal	Standard

It is strictly recommended to use an additional spark probe in order
to avoid contamination and memory effects of Pb in other base materials!

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range Sn Base for "PMI-MASTER Pro2"

		Sn 200	
		Sn/Sb solder	
		Min	Max
Ag	Silver	0.001	0.24
Al	Aluminium	0.002	0.24
As	Arsenic	0.007	0.6
Bi	Bismuth	0.001	0.75
Cd	Cadmium	0.001	2
Co	Cobalt	0.003	0.12
Cu	Copper	0.001	13
Fe	Iron	0.001	0.09
In	Indium	0.001	0.12
Ni	Nickel	0.001	1.5
Pb	Lead	0.001	1.2
Sb	Antimony	0.006	16
Zn	Zinc	0.006	0.075
Sn	Tin	Internal	Standard

It is strictly recommended to use an additional spark probe in order to avoid contamination and memory effects of Sn in other base materials!

CALIBRATION RANGE

PMI-MASTER Pro2

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Calibration range Mg Base for "PMI-MASTER Pro2"

		MG 000	
		Mg Global	
		Min	Max
Ag	Silver	0.001	0.035
Al	Aluminium	0.005	13
Be	Beryllium	0.0001	0.004
Ca	Calcium	0.0001	0.49
Cd	Cadmium	0.001	0.09
Cu	Copper	0.002	0.36
Mn	Manganese	0.003	0.8
Sn	Tin	0.004	0.11
Sr	Strontium	0.0001	0.001
Zn	Zinc	0.02	2
Mg	Magnesium	internal	standard