

Application Cement Industry

We offer ready to go **calibration packages** for x-ray fluorescence analysis.

Our team has developed special calibration packages:

- **Products:** Cement, Clinker, Raw meal
- **Raw materials:** Clay, Sand, Limestone, Gypsum, Iron Ore, Fly Ash, Bauxite, Dolomite, Pozzolana

We install the **complete analytical method**, within a few days, on the XRF instrument in your laboratory.



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Official agent

Periodic Table of Fusion

Z		A		Z		A		Z		A		Z		A	
Symbol		Element		Symbol		Element		Symbol		Element		Symbol		Element	
Ox>El		Oxid		El>Ox		Oxid		El>Ox		Oxid		El>Ox		Oxid	
1	H	2	He	3	Li	4	Be	5	B	6	C	7	N	8	O
9	F	10	Ne	11	Na	12	Mg	13	Al	14	Si	15	P	16	S
17	Cl	18	Ar	19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr
25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge
33	As	34	Se	35	Br	36	Kr	37	Rb	38	Sr	39	Y	40	Zr
41	Nb	42	Mo	43	Tc	44	Ru	45	Rh	46	Pd	47	Ag	48	Cd
49	In	50	Sn	51	Sb	52	Te	53	I	54	Xe	55	Cs	56	Ba
57	La	58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd
65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu	72	Hf
73	Ta	74	W	75	Re	76	Os	77	Ir	78	Pt	79	Au	80	Hg
81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn	87	Fr	88	Ra
89	Ac	90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm
97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No	103	Lr	104	Rf
105	Db	106	Sg	107	Bh	108	Hs	109	Mt	110	Ds	111	Rg	112	Cn
113	Nh	114	Fl	115	Mc	116	Lv	117	Ts	118	Og	119	Uu	120	Uub

Advantages to developing your application with us:

1. **No development time** in your laboratory
2. **Cost saving**
3. Fast introduction of **new methods**
4. **Easy calculation** of costs
5. **Guarantee** on reproducibility and accuracy
6. Calibration with **highest quality**
7. Newcomers become **experts** quickly
8. Guaranteed **after sales support**



Vulcan 4MA

Typical content of a package:

- Sample **preparation tools**: fusion machine, mill, press
 - **Chemicals**: flux, binder, grinding agent
 - 1 set of **calibration standards** ready for measurement
 - 1 set of **drift correction samples**
 - 1 set of **validation samples**
 - Installation of **measuring program** on the XRF instrument in your laboratory
 - **Calibrating on site**
 - **Validation** with your own samples
 - **Training** of your laboratory staff
 - **Customer acceptance**
 - **After sales support** from our team of XRF experts
 - Contribution to our **round robin tests**
 - **Cross check** of routine results with our application laboratory
- NEW** ■ **Powder sets for calibration**: 25 standards for raw materials and 21 standards for cement

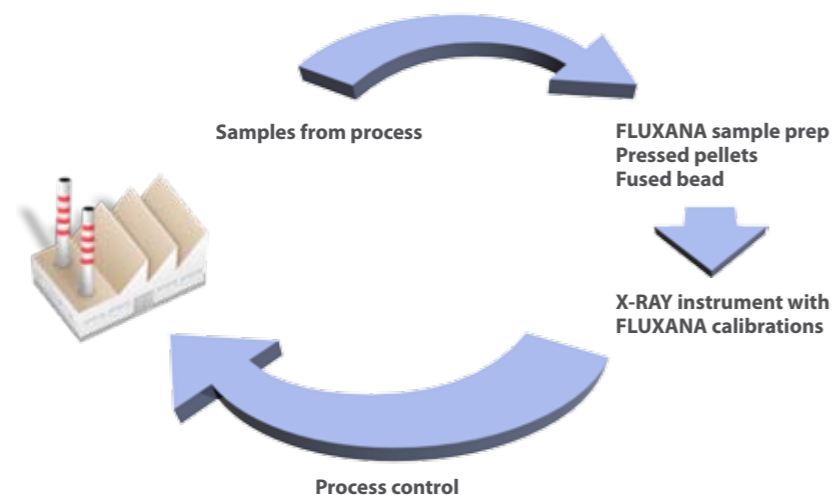


Vaneox - 40t automatic



All standard calibrations are developed in our own application laboratory. We will be pleased to accept your test samples for evaluation in our laboratory and can work together with you to develop new methods to transfer to install in your laboratory.

Ask for a free presentation in our lab whenever you like.



Concentration ranges for fusion and pressed pellet programs

Component	Cement / Clinker / *Raw meal		Raw Materials: Clay, Sand, Limestone, Gypsum, Iron Ore, Fly Ash, Bauxite, Dolomite, Pozzolana	
	Min %	Max %	Min %	Max %
Na ₂ O	0	1,0	0	3,5
MgO	0	6,0	0	35,0
Al ₂ O ₃	4,0 / 2,0*	10,0	0	100,0
SiO ₂	19 / 10*	28,0	0	100,0
P ₂ O ₅	0	0,3	0	2,4
SO ₃	0,8 / 0,4*	5,0	0	5,0
K ₂ O	0	1,5	0	5,0
CaO	50 / 25*	70,0	0	100,0
TiO ₂	0	0,7	0	2,7
Cr ₂ O ₃	0	0,05	0	0,1
Mn ₃ O ₄	0	0,15	0	1,6
Fe ₂ O ₃	0	4,0	0	30,0
ZnO	0	0,10	0	0,07
SrO	0	0,7	0	0,7

Validation example for pressed pellet methods vs fusion method

Cement	Sample preparation	LOI	Al ₂ O ₃	CaO	Cl	Cr ₂ O ₃	Fe ₂ O ₃	K ₂ O	MgO	Mn ₂ O ₃	Na ₂ O	P ₂ O ₅	SO ₃	SiO ₂	SrO	TiO ₂	ZnO	Sum
	FUSED BEAD	2,01	4,69	63,43		0,047	3,45	0,43	2,28	0,043	0,33	0,171	3,41	19,20	0,061	0,348	0,018	99,92
	PRESSED PELLET		4,74	63,33	0,02	0,039	3,45	0,42	2,34	0,013	0,28	0,165	3,31	19,32	0,059	0,359	0,019	97,86
	Diff		0,05	-0,10		-0,01	0,00	-0,01	0,06	-0,03	-0,05	-0,01	-0,10	0,12	0,00	0,01	0,00	

Clinker	Sample preparation	LOI	Al ₂ O ₃	CaO	Cl	Cr ₂ O ₃	Fe ₂ O ₃	K ₂ O	MgO	Mn ₂ O ₃	Na ₂ O	P ₂ O ₅	SO ₃	SiO ₂	SrO	TiO ₂	ZnO	Sum
	FUSED BEAD	0,23	5,05	65,07		0,059	3,39	0,43	2,86	0,047	0,39	0,176	1,23	20,78	0,054	0,334	0,021	100,12
	PRESSED PELLET		5,19	64,91	0,01	0,055	3,35	0,39	2,94	0,032	0,34	0,187	1,23	20,96	0,051	0,354	0,023	100,02
	Diff		0,14	-0,16		0,00	-0,04	-0,04	0,08	-0,01	-0,05	0,01	0,00	0,18	0,00	0,02	0,00	

Raw Meal	Sample preparation	LOI	Al ₂ O ₃	CaO	Cl	Cr ₂ O ₃	Fe ₂ O ₃	K ₂ O	MgO	Mn ₂ O ₃	Na ₂ O	P ₂ O ₅	SO ₃	SiO ₂	SrO	TiO ₂	ZnO	Sum
	FUSED BEAD	34,34	3,48	42,61		0,035	2,39	0,41	1,83	0,034	0,31	0,124	0,30	13,78	0,039	0,259	0,008	99,95
	PRESSED PELLET		3,55	42,60	0,065	0,029	2,36	0,40	1,84	0,032	0,26	0,127	0,28	13,95	0,036	0,277	0,007	65,81
	Diff		0,07	-0,01		-0,01	-0,03	-0,01	0,01	0,00	-0,05	0,00	-0,02	0,17	0,00	0,02	0,00	

All FLUXANA methods are in agreement with the standard methods for cement analysis ISO 29581-2 and ASTM C114.

Application packages

FLUXANA has developed applications for the following products. We will be pleased to help you set up your own high precision method. Ready to go application packages:

Article-No.:	Application
CS- 0001 Set	FLUXANA Calibration Cement, Clinker, Raw Meal based on fused bead
CS- 0007 Set	FLUXANA Calibration Raw Materials Basic based on fused bead
CS- 0002 Set	FLUXANA Calibration Coal Ash, Coke Ash and Fly Ash based on fused bead
CS- 0018-KP	FLUXANA Calibration Cement based on pressed pellets
CS- 0019-KP	FLUXANA Calibration Clinker based on pressed pellets
CS- 0020-KP	FLUXANA Calibration Custom Raw Meal based on pressed pellets
CS- 0021-KP	FLUXANA Calibration Individual raw material based on pressed pellets