

## 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.



**FLUXANA GmbH & Co. KG**  
Borschelstr. 3, 47551 Bedburg-Hau, Germany  
Tel.: +49 (0) 2821 997 32-0  
Fax: +49 (0) 2821 997 32 29  
E-mail: [info@fluxana.de](mailto:info@fluxana.de)  
Web: [www.fluxana.com](http://www.fluxana.com)  
Amtsgericht Kleve: HR-A 2935, HR-B 8211  
Ust-IdNr.: DE 814692564, Steuer-Nr. 116/5755/0442  
Finanzamt Kleve

**In cooperation with:**  
**HD Elektronik und Elektrotechnik GmbH**  
Sommerdeich 22, 47533 Kleve, Germany  
Tel.: +49 (0) 2821 148 10  
Fax: +49 (0) 2821 148 09  
E-mail: [hde@hdelektronik.de](mailto:hde@hdelektronik.de)  
Web: [www.hdelektronik.de](http://www.hdelektronik.de)  
Amtsgericht Kleve: HR-B 2162  
Ust-IdNr.: DE 812941185, Steuer-Nr. 116/5707/1869  
Finanzamt Kleve

Official agent

Periodic Table of Fusion																Z	A	Symbol																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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## 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

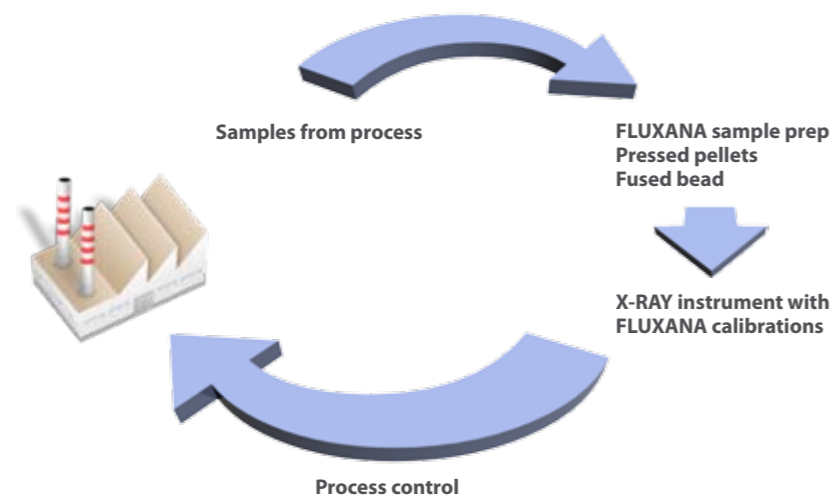


Vaneox - 25t automatic



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 <sub>2</sub> O	0	1,0	0	3,5
MgO	0	6,0	0	35,0
Al <sub>2</sub> O <sub>3</sub>	4,0 / 2,0*	10,0	0	100,0
SiO <sub>2</sub>	19 / 10*	28,0	0	100,0
P <sub>2</sub> O <sub>5</sub>	0	0,3	0	2,4
SO <sub>3</sub>	0,8 / 0,4*	5,0	0	5,0
K <sub>2</sub> O	0	1,5	0	5,0
CaO	50 / 25*	70,0	0	100,0
TiO <sub>2</sub>	0	0,7	0	2,7
Cr <sub>2</sub> O <sub>3</sub>	0	0,05	0	0,1
Mn <sub>3</sub> O <sub>4</sub>	0	0,15	0	1,6
Fe <sub>2</sub> O <sub>3</sub>	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 <sub>2</sub> O <sub>3</sub>	CaO	Cl	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Mn <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	SrO	TiO <sub>2</sub>	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 <sub>2</sub> O <sub>3</sub>	CaO	Cl	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Mn <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	SrO	TiO <sub>2</sub>	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 <sub>2</sub> O <sub>3</sub>	CaO	Cl	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	Mn <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>	SiO <sub>2</sub>	SrO	TiO <sub>2</sub>	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	

## 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-K	FLUXANA Calibration Cement, Clinker, Raw Meal based on <b>fused bead</b>
CS- 0007-K	FLUXANA Calibration Raw Materials Basic based on <b>fused bead</b>
CS- 0009	FLUXANA Custom calibration to your specification based on <b>fused bead</b>
CS- 0018-KP	FLUXANA Calibration Cement based on <b>pressed pellets</b>
CS- 0019-KP	FLUXANA Calibration Clinker based on <b>pressed pellets</b>
CS- 0020-KP	FLUXANA Calibration Custom Raw Meal based on <b>pressed pellets</b>
CS- 0021-KP	FLUXANA Calibration Individual raw material based on <b>pressed pellets</b>