

RFA Ringversuch ATILH, Frankreich - Zement 17/3215/01

Veranstalter des Ringversuchs: Association Technique de l'industrie des liants hydrauliques (ATILH)

Ringversuchsmaterial: Portlandkalksteinzement CEM II/B-LL 32,5R

RV geschlossen: 2017 - 7

Literatur: Bericht Ringversuch

Hauptelemente [MA%]

	CRB	RV	1sRV	Z-Score
Na ₂ O	0,130	0,140	0,030	-0,300
MgO	3,200	3,170	0,120	0,300
Al ₂ O ₃	3,510	3,500	0,090	0,100
SiO ₂	16,170	16,170	0,220	0,000
P ₂ O ₅	0,108	0,100	0,010	0,800
SO ₃	2,880	2,780	0,090	1,100
K ₂ O	0,515	0,510	0,030	0,200
CaO	60,340	59,980	0,500	0,700
Fe ₂ O ₃ tot.	1,750	1,780	0,050	-0,700
L.O.I.	11,030	11,620	0,160	-3,700

Legende

CRB: Ergebnisse CRB – **RV:** Ergebnisse Ringversuch -- **1s-RV:** Standardabweichung Ringversuch

Z-Score: Differenz des Messwertes vom Mittelwert des Ringversuchs -- * Wert nicht zertifiziert

**Interlaboratory testing programme
2017
Results from the first statistical
analyses**

- European pilot laboratories (French pilot and European pilot)
- European laboratories (French plant laboratories + European plant laboratories and European cement user laboratories)
- Foreign laboratories (laboratories outside Europe)

First estimations all populations and all method together

Parameter	Nb Labo	Nb Results	Mean	Repro Std	CV (%)	Lm 95 %	LM 95 %
Loss on ignition	143	206	11.62	0.16	1.4	11.29	11.94
SiO2	121	185	16.17	0.22	1.4	15.73	16.61
Al2O3	120	176	3.50	0.09	2.7	3.32	3.69
Fe2O3	123	183	1.78	0.05	3.1	1.67	1.88
CaO	121	178	59.98	0.50	0.8	58.99	60.98
MgO	120	180	3.17	0.12	3.9	2.93	3.41
SO3	133	250	2.78	0.09	3.1	2.61	2.95
Free lime	102	120	0.50	0.13	26.6	0.23	0.76
Insoluble residue	126	176	1.39	0.31	22.2	0.78	2.00
Na2O	118	171	0.14	0.03	21.0	0.08	0.20
K2O	120	172	0.51	0.03	5.0	0.46	0.56
TiO2	86	110	0.18	0.01	4.8	0.16	0.19
Chloride	124	161	0.04	0.01	16.1	0.03	0.05
P2O5	89	122	0.10	0.01	10.0	0.08	0.13
SrO	51	66	0.12	0.01	6.4	0.10	0.13
CO2	45	45	10.49	0.35	3.4	9.78	11.20
S--	34	34	0.01	0.01	112.3	-0.01	0.03
Cr6+	61	61	0.000106	0.000116	109.6	-0.000126	0.000337
Specific Gravity	117	148	3.00	0.03	0.9	2.95	3.05
Specific surface	128	134	4957	183	3.7	4595	5319
Corrected surface	110	118	4952	206	4.2	4544	5359
Normal consistency	130	174	28.1	0.6	2.1	27.0	29.3
Initial setting time	134	180	153	14	9.3	125	181
Soundness	115	158	0.49	0.42	84.9	-0.33	1.32
Granulométrie 2.5µm	60	60	13.3	3.6	27.3	6.0	20.6
Granulométrie 12.5µm	63	63	54.5	4.7	8.7	45.0	64.0
Granulométrie 31.5µm	67	69	81.9	4.0	4.9	73.8	89.9
Granulométrie 80µm	92	107	97.7	1.4	1.5	94.9	100.5
Shrinkage 3d	17	17	189	40	21.2	104	274
Shrinkage 7d	20	20	451	68	15.2	308	594
Shrinkage 14d	20	20	602	81	13.5	432	772
Shrinkage 28d	22	22	672	83	12.3	500	844
Swelling 3d	10	10	40	24	59.4	-14	93
Swelling 7d	11	11	44	21	46.6	-2	90
Swelling 14d	9	9	51	27	53.6	-12	114
Swelling 28d	12	12	58	31	54.1	-11	126
Heat of hydration 41h	37	37	279	17	6.1	245	314
Heat of hydration 3d	31	31	285	19	6.6	247	324
Heat of hydration 5d	27	27	289	19	6.6	250	328
Heat of hydration 7d	12	12	315	28	8.9	253	377
Maximum heat exhaust rate	12	20	28.4	3.2	11.4	21.6	35.1
Age maximum rate	12	22	9.5	0.5	5.1	8.5	10.5
Workability	6	9	4.9	1.6	32.2	1.2	8.5
Fluidity	3	4	6.3	2.0	32.6	-0.2	12.8
Clinker	30	37	73.0	2.1	2.9	68.7	77.3
Set regulator	30	37	4.2	0.6	14.4	3.0	5.5
Constituent 1	31	37	23.0	2.3	9.9	18.4	27.7
Constituent 2	13	15	1.6	0.8	51.6	-0.2	3.4
C3S Mineralogy	25	25	53.5	11.5	21.6	29.7	77.3
C2S Mineralogy	24	24	8.4	2.7	32.7	2.7	14.1
C3A Mineralogy	26	26	5.6	0.5	9.2	4.5	6.6
C34AF Mineralogy	26	26	4.5	0.6	13.0	3.3	5.7
Free lime Mineralogy	16	16	0.1	0.1	102.0	-0.2	0.4
SO4Ca Mineralogy	12	12	2.6	1.3	52.8	-0.4	5.5
Mean of weight of samples at demoulding	125	125	577.6	6.7	1.2	564.4	590.9
Bending 1 day	58	58	3.5	0.3	9.5	2.8	4.1
Bending 2 days	62	67	4.7	0.3	6.0	4.2	5.3
Bending 7 days	63	63	6.3	0.4	6.3	5.5	7.0
Bending 28 days	62	62	7.3	0.5	6.7	6.3	8.3
Compression 1 day	126	150	15.0	0.9	6.2	13.2	16.9
Compression 2 days	139	165	24.8	1.2	5.0	22.3	27.2
Compression 7 days	135	162	36.2	1.7	4.6	32.9	39.5
Compression 28 days	138	166	43.1	2.2	5.0	38.8	47.4

SYMBOLS OF METHODS

CHEMICAL DETERMINATIONS

	Loss on ignition	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	Alkies	SO ₃	Free lime	Insoluble residue	Cl	TiO ₂	P ₂ O ₅	SrO	
A	θ=1000°C T=20min	Atomic Absorption (AAS)											Atomic Absorption (AAS)		
B	θ<1000°C T=20min	Quinoléine							Glycerin Alcohol						
C	θ=1000°C T<20min	CH ₂ -CH ₂ -O	Complexometry						Glycol Complexometry						
D	θ<1000°C T>20min	Double Insolubilité													
E	θ<1000°C T=20min	NH ₄ Cl						Eltra	Ethylene Glycol						
G	θ=1000°C T=15min	Gelatin						Gravi metry	Glycol Acidimetry						
K*	θ=950°C T=15min	Double Insolubilité	Complexometry				Flame photo	Gravi metry		Gravimetry	AgNO ₃				
L	θ=1000°C T>20min							Leco	Glycol Conductimetry						
M		Plasma (ICP)										Plasma(ICP)			
P	θ<1000°C T=20min	HClO ₄					Flame photo				Potenti ometry				
T	Thermo gravimetry							Turb idim etry	Thermo gravimetry						
X	θ<1000°C T<20min	X-ray fluorescence										X-ray fluorescence			

* CEN reference method

PHYSICAL DETERMINATIONS

	Specific gravity	Granulometer	Setting time test	Mechanical tests
A	ASTM – NBS standard	Alpine sieving	Automatic apparatus	AFNOR Sand, CEN Standard
B		Other sieving		AFNOR Sand, National Standard
C				National Sand, National Standard
D				National Sand, CEN Standard
G	Atilh standard			
L	Lafarge standard	Laser granulometer		
M			Manual test	

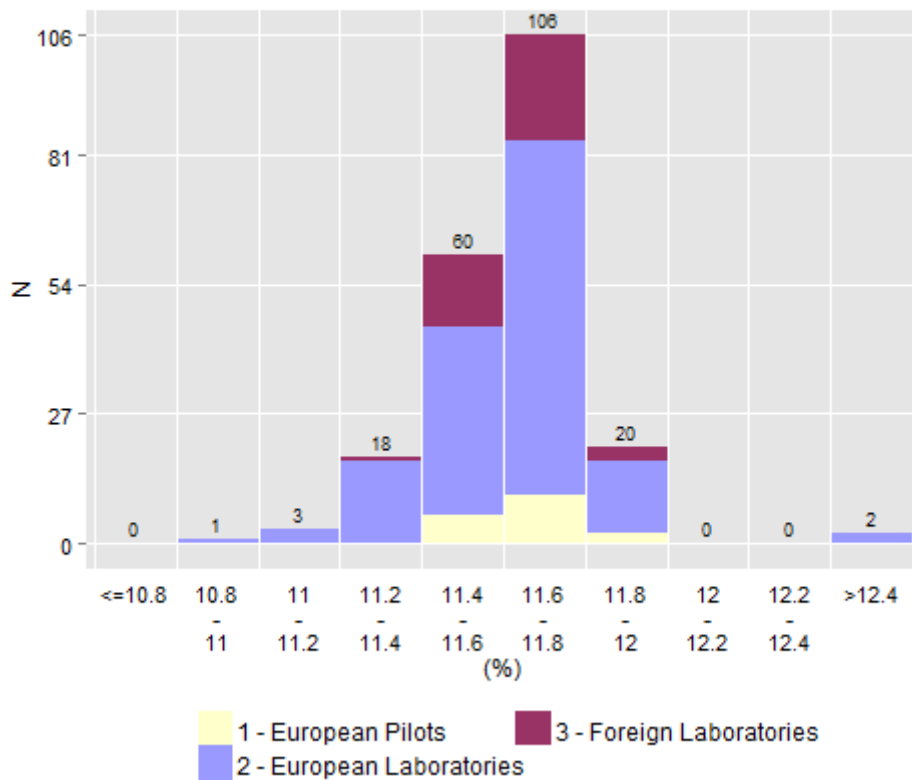
N : For the individual case (Physical, Chemical or Mechanical tests) not mentioned method or few results.

SYMBOLS BY STATISTICS

A.M.U.	All methods used
n	Number of test per laboratory
\bar{x}	Arithmetic mean
ε	Precision of a measure of the mean
Repro Std	Standard deviation of reproducibility
CV	Coefficient of variation ($V\%=S/x$)
Lm 95%	Lower confidence limits after elimination of outliers
LM 95%	Upper confidence limits after elimination of outliers

Chemical Analyses

Loss on ignition (A.M.U) Mean 11.62 +/- 0.03

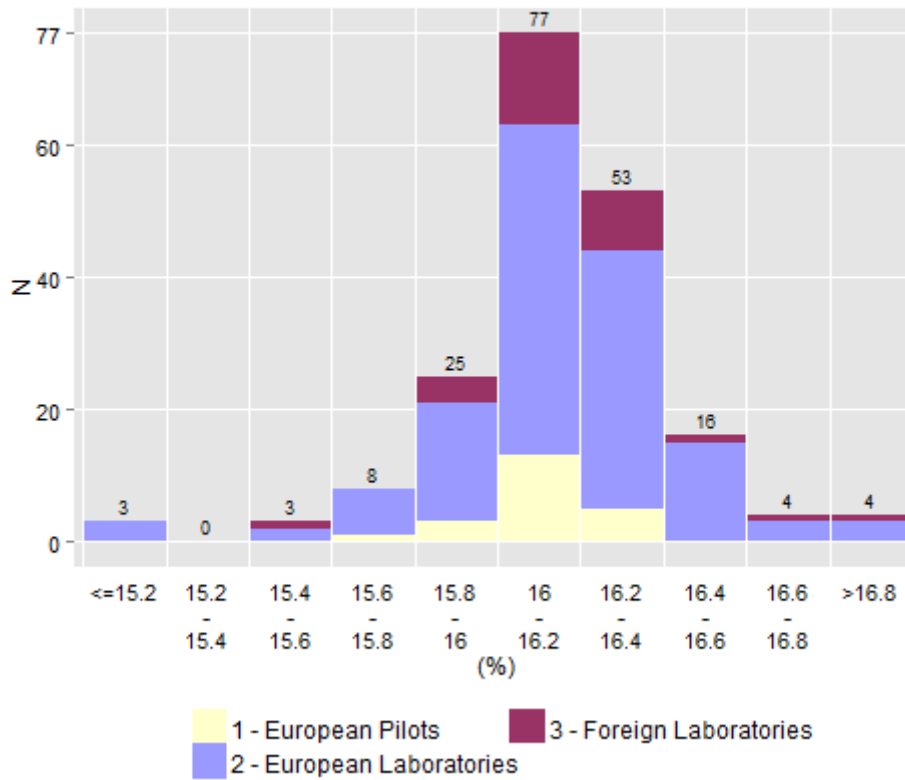


Loss on ignition - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	18	11.64	0.05	0.10	0.9	11.43	11.85
2 - European Laboratories	A.M.U	149	11.61	0.03	0.18	1.6	11.25	11.96
3 - Foreign Laboratories	A.M.U	39	11.64	0.03	0.10	0.9	11.43	11.85

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	15	11.64	0.06	0.11	0.9	11.41	11.88
1 - European Pilots	N	2	11.66	0.44	0.05	0.4	11.03	12.28
2 - European Laboratories	B	5	11.69	0.31	0.25	2.2	10.99	12.39
2 - European Laboratories	D	11	11.59	0.13	0.19	1.7	11.16	12.02
2 - European Laboratories	K	119	11.60	0.03	0.18	1.6	11.25	11.96
2 - European Laboratories	N	14	11.62	0.09	0.15	1.3	11.29	11.96
3 - Foreign Laboratories	B	2	11.61	0.32	0.04	0.3	11.16	12.05
3 - Foreign Laboratories	D	5	11.63	0.20	0.16	1.4	11.17	12.09
3 - Foreign Laboratories	K	28	11.63	0.03	0.08	0.7	11.46	11.80
3 - Foreign Laboratories	N	4	11.73	0.25	0.16	1.4	11.22	12.24

SiO₂ (A.M.U)
Mean 16.17 +/- 0.04

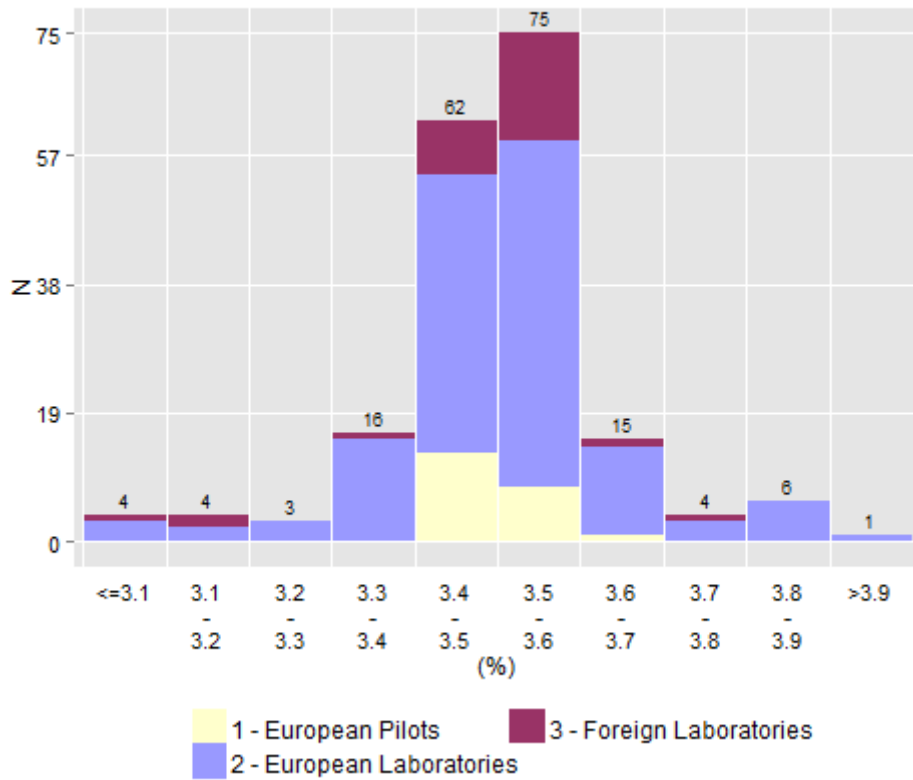


SiO₂ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	21	16.11	0.06	0.12	0.8	15.86	16.37
2 - European Laboratories	A.M.U	135	16.17	0.04	0.24	1.5	15.70	16.64
3 - Foreign Laboratories	A.M.U	29	16.19	0.07	0.20	1.2	15.79	16.59

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	5	16.05	0.17	0.14	0.9	15.66	16.44
1 - European Pilots	X	16	16.13	0.06	0.11	0.7	15.89	16.37
2 - European Laboratories	K	28	16.11	0.08	0.20	1.2	15.71	16.52
2 - European Laboratories	M	7	16.31	0.26	0.28	1.7	15.63	17.00
2 - European Laboratories	X	98	16.17	0.05	0.24	1.5	15.69	16.65
3 - Foreign Laboratories	K	7	16.27	0.23	0.25	1.5	15.67	16.88
3 - Foreign Laboratories	M	3	16.16	0.47	0.19	1.2	15.35	16.98
3 - Foreign Laboratories	X	17	16.17	0.10	0.19	1.2	15.77	16.57

Al₂O₃ (A.M.U)
Mean 3.51 +/- 0.02

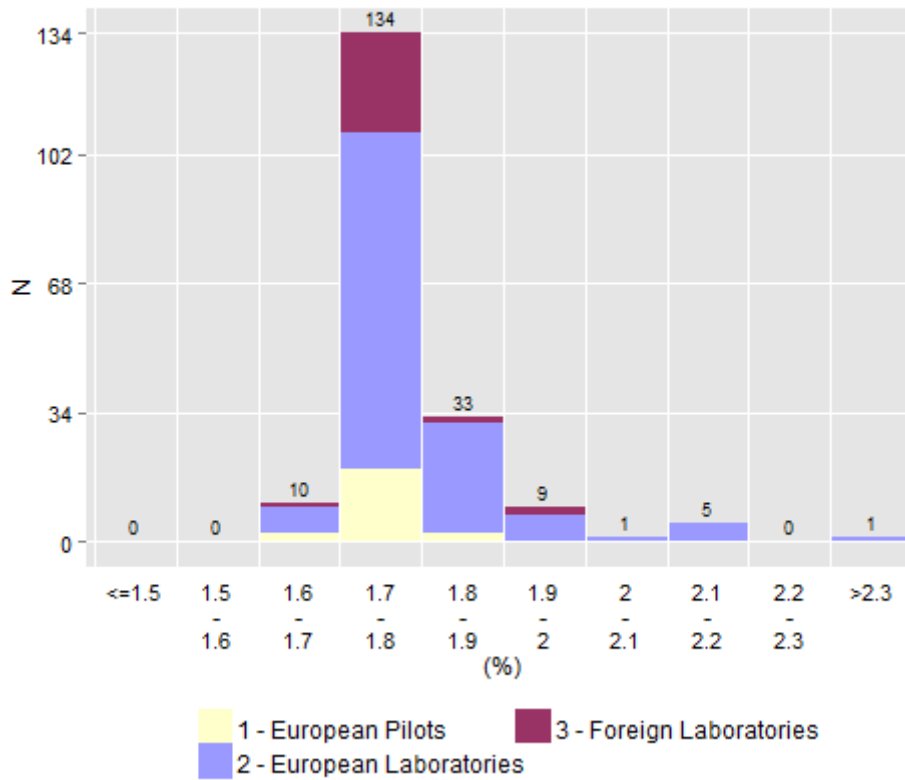


Al₂O₃ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	21	3.50	0.02	0.05	1.4	3.40	3.61
2 - European Laboratories	A.M.U	126	3.50	0.02	0.09	2.6	3.32	3.68
3 - Foreign Laboratories	A.M.U	29	3.51	0.05	0.13	3.6	3.25	3.76

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	5	3.53	0.11	0.09	2.4	3.29	3.77
1 - European Pilots	X	16	3.50	0.02	0.03	0.9	3.43	3.56
2 - European Laboratories	K	24	3.50	0.05	0.11	3.1	3.28	3.73
2 - European Laboratories	M	7	3.53	0.08	0.09	2.5	3.32	3.75
2 - European Laboratories	X	92	3.50	0.02	0.09	2.4	3.33	3.67
3 - Foreign Laboratories	K	6	3.46	0.23	0.22	6.4	2.89	4.03
3 - Foreign Laboratories	M	3	3.50	0.19	0.08	2.2	3.16	3.83
3 - Foreign Laboratories	X	19	3.53	0.04	0.09	2.5	3.34	3.72

Fe₂O₃ (A.M.U)
Mean 1.78 +/- 0.01

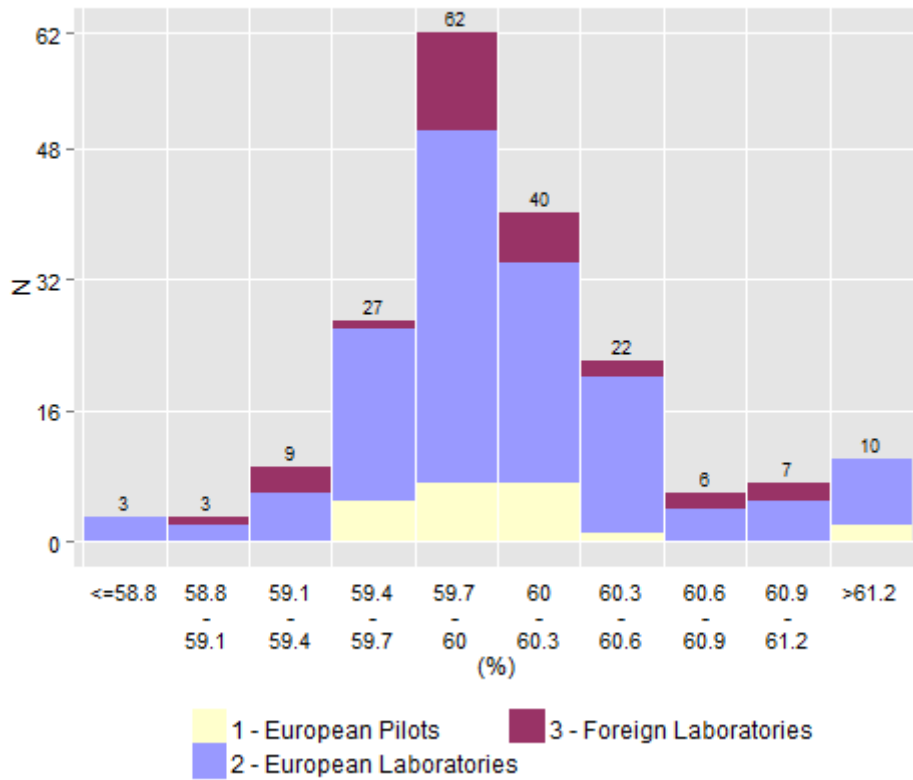


Fe₂O₃ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	22	1.76	0.01	0.03	1.8	1.69	1.82
2 - European Laboratories	A.M.U	132	1.78	0.01	0.06	3.3	1.67	1.90
3 - Foreign Laboratories	A.M.U	29	1.76	0.01	0.03	1.8	1.70	1.82

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	5	1.76	0.07	0.05	3.1	1.61	1.91
1 - European Pilots	X	16	1.76	0.01	0.02	1.4	1.71	1.81
2 - European Laboratories	K	26	1.79	0.02	0.06	3.4	1.66	1.92
2 - European Laboratories	M	7	1.81	0.09	0.10	5.6	1.56	2.06
2 - European Laboratories	N	3	1.80	0.27	0.11	6.0	1.34	2.26
2 - European Laboratories	X	96	1.78	0.01	0.05	3.0	1.67	1.89
3 - Foreign Laboratories	K	6	1.76	0.03	0.02	1.4	1.69	1.82
3 - Foreign Laboratories	M	3	1.76	0.06	0.03	1.4	1.65	1.86
3 - Foreign Laboratories	N	2	1.75	0.32	0.04	2.0	1.30	2.19
3 - Foreign Laboratories	X	18	1.76	0.02	0.03	2.0	1.69	1.84

CaO (A.M.U)
Mean 59.98 +/- 0.09

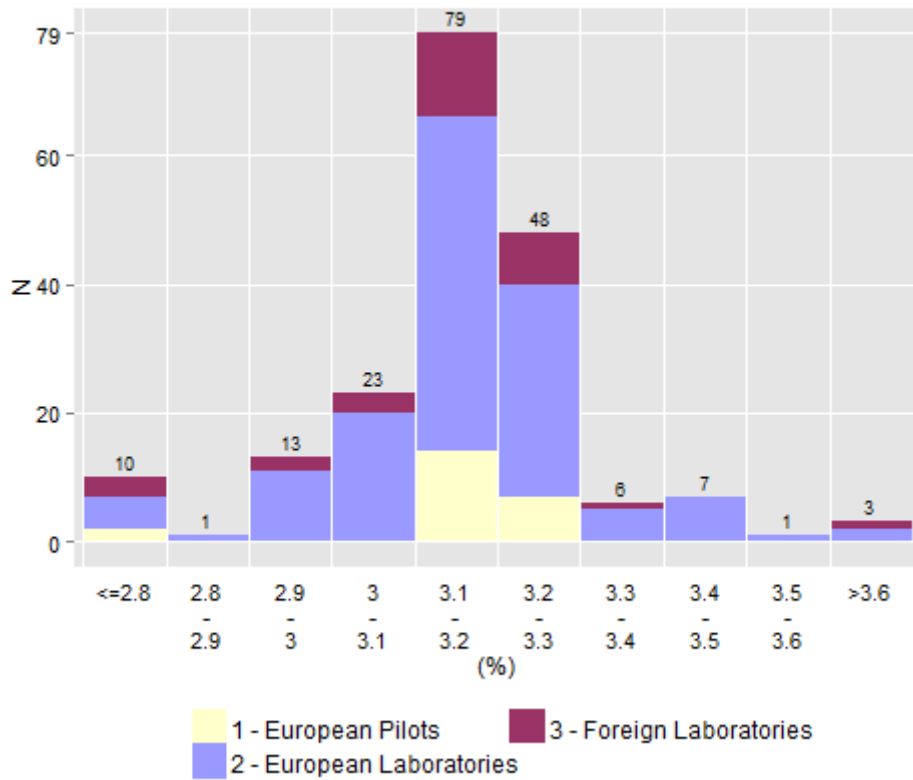


CaO - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	20	59.89	0.12	0.25	0.4	59.37	60.42
2 - European Laboratories	A.M.U	132	60.00	0.10	0.55	0.9	58.91	61.10
3 - Foreign Laboratories	A.M.U	26	59.96	0.15	0.36	0.6	59.22	60.70

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	6	60.11	0.24	0.23	0.4	59.53	60.69
1 - European Pilots	X	14	59.80	0.12	0.20	0.3	59.37	60.23
2 - European Laboratories	K	27	59.84	0.14	0.35	0.6	59.12	60.56
2 - European Laboratories	M	7	60.29	1.17	1.27	2.1	57.19	63.39
2 - European Laboratories	X	95	60.03	0.11	0.52	0.9	59.00	61.07
3 - Foreign Laboratories	K	4	59.96	0.16	0.10	0.2	59.63	60.29
3 - Foreign Laboratories	M	2	59.26	0.95	0.11	0.2	57.91	60.60
3 - Foreign Laboratories	X	19	60.07	0.14	0.30	0.5	59.44	60.70

MgO (A.M.U)
Mean 3.17 +/- 0.02

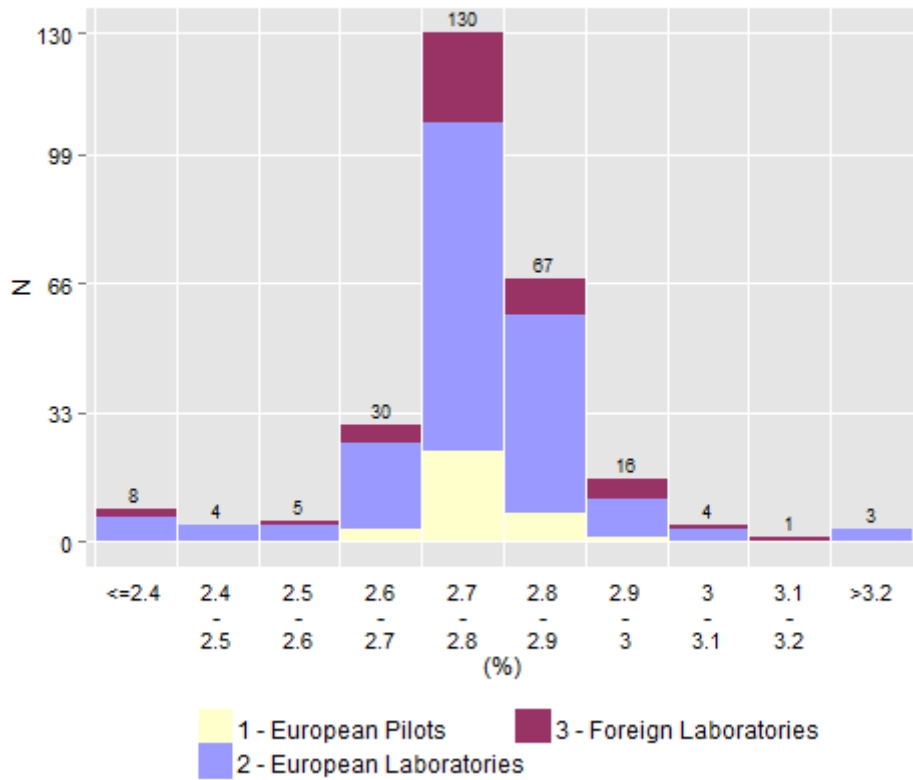


MgO - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	21	3.19	0.02	0.05	1.5	3.09	3.29
2 - European Laboratories	A.M.U	131	3.17	0.02	0.13	4.0	2.92	3.42
3 - Foreign Laboratories	A.M.U	28	3.15	0.06	0.15	4.7	2.84	3.46

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	5	3.19	0.08	0.07	2.1	3.01	3.38
1 - European Pilots	X	16	3.19	0.02	0.04	1.4	3.10	3.28
2 - European Laboratories	K	23	3.20	0.08	0.18	5.8	2.82	3.59
2 - European Laboratories	M	7	3.07	0.07	0.07	2.3	2.90	3.25
2 - European Laboratories	N	4	3.10	0.30	0.19	6.0	2.51	3.69
2 - European Laboratories	X	97	3.17	0.02	0.10	3.3	2.96	3.38
3 - Foreign Laboratories	K	4	3.18	0.11	0.07	2.1	2.97	3.39
3 - Foreign Laboratories	M	4	3.00	0.45	0.28	9.5	2.10	3.90
3 - Foreign Laboratories	X	19	3.18	0.06	0.11	3.6	2.94	3.42

SO₃ (A.M.U)
Mean 2.78 +/- 0.01

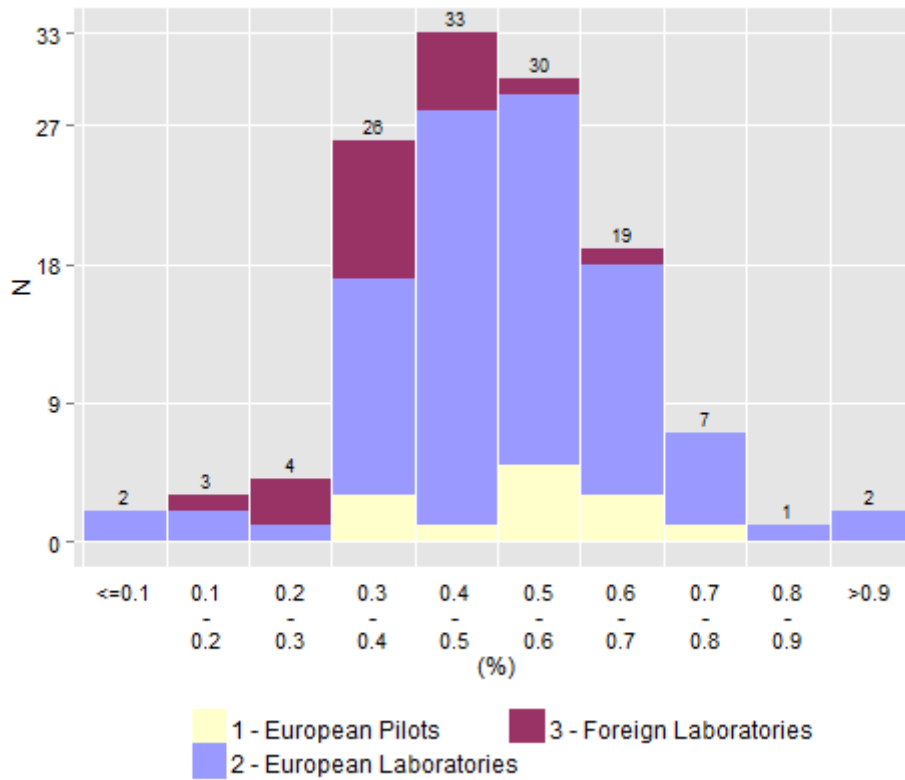


SO₃ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	33	2.77	0.02	0.05	1.8	2.67	2.87
2 - European Laboratories	A.M.U	173	2.78	0.01	0.09	3.2	2.60	2.95
3 - Foreign Laboratories	A.M.U	44	2.79	0.03	0.10	3.6	2.59	2.99

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	15	2.76	0.03	0.06	2.0	2.64	2.88
1 - European Pilots	N	4	2.76	0.05	0.03	1.2	2.65	2.87
1 - European Pilots	X	14	2.79	0.03	0.05	1.7	2.69	2.89
2 - European Laboratories	K	71	2.75	0.02	0.09	3.3	2.57	2.93
2 - European Laboratories	N	19	2.81	0.04	0.09	3.2	2.62	3.00
2 - European Laboratories	X	83	2.79	0.02	0.08	2.9	2.63	2.95
3 - Foreign Laboratories	K	18	2.76	0.05	0.11	3.8	2.54	2.98
3 - Foreign Laboratories	N	8	2.76	0.07	0.08	2.9	2.57	2.95
3 - Foreign Laboratories	X	18	2.82	0.05	0.09	3.3	2.63	3.02

Free lime (A.M.U)
Mean 0.49 +/- 0.03

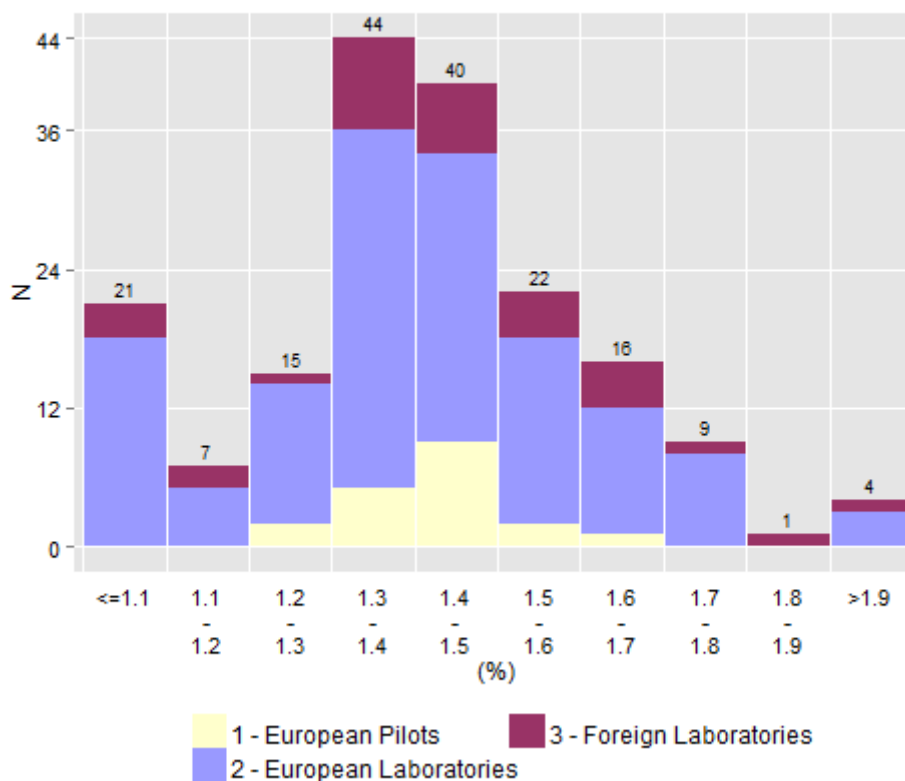


Free lime - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	13	0.53	0.09	0.14	26.5	0.22	0.84
2 - European Laboratories	A.M.U	88	0.52	0.03	0.12	23.2	0.28	0.76
3 - Foreign Laboratories	A.M.U	19	0.36	0.04	0.08	23.4	0.18	0.53

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	C	3	0.43	0.47	0.19	44.3	0.00	1.25
1 - European Pilots	G	8	0.59	0.08	0.09	15.6	0.37	0.81
2 - European Laboratories	B	6	0.53	0.20	0.20	36.9	0.03	1.03
2 - European Laboratories	C	28	0.47	0.04	0.11	23.2	0.25	0.69
2 - European Laboratories	G	46	0.55	0.04	0.12	21.5	0.31	0.79
2 - European Laboratories	N	8	0.51	0.04	0.05	9.0	0.40	0.61
3 - Foreign Laboratories	B	7	0.29	0.06	0.06	21.5	0.14	0.44
3 - Foreign Laboratories	C	4	0.41	0.06	0.04	9.1	0.29	0.52
3 - Foreign Laboratories	G	7	0.40	0.08	0.08	20.7	0.20	0.60

Insoluble residue (A.M.U) Mean 1.39 +/- 0.05

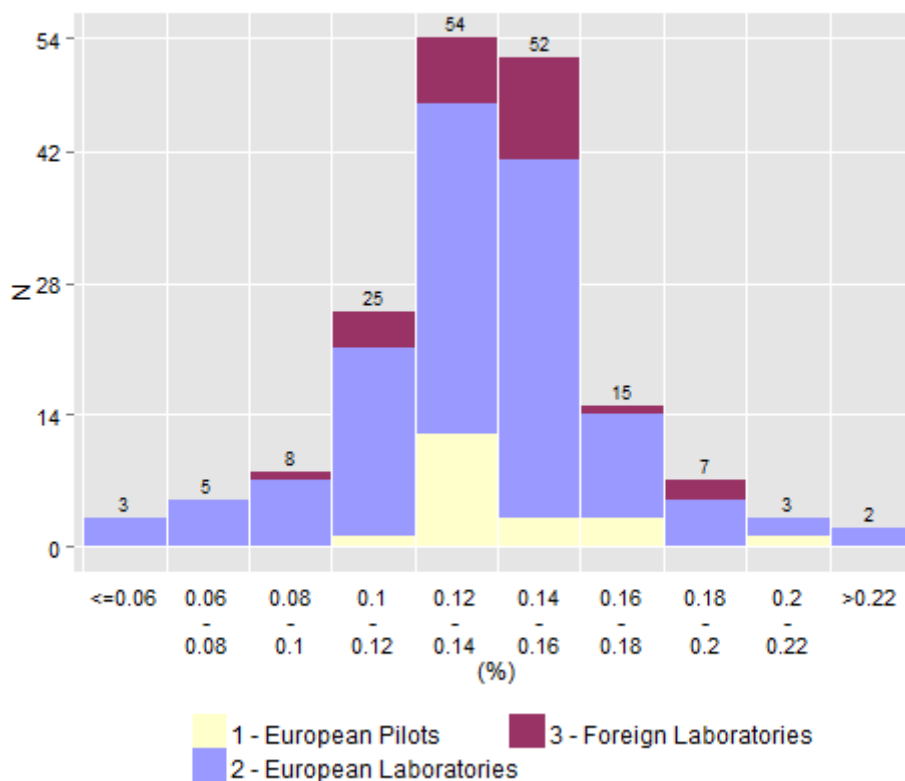


Insoluble residue - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ϵ (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	19	1.43	0.05	0.10	6.8	1.23	1.64
2 - European Laboratories	A.M.U	128	1.37	0.06	0.34	25.0	0.69	2.04
3 - Foreign Laboratories	A.M.U	29	1.46	0.08	0.22	15.0	1.01	1.91

Labo Group	Method	Number of Results	Mean	ϵ (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	19	1.43	0.05	0.10	6.8	1.23	1.64
2 - European Laboratories	K	121	1.38	0.06	0.31	22.3	0.77	1.99
2 - European Laboratories	N	4	1.36	0.54	0.34	24.8	0.29	2.43
2 - European Laboratories	X	3	0.59	1.98	0.80	135.1	0.00	4.02
3 - Foreign Laboratories	K	22	1.49	0.09	0.21	13.8	1.06	1.92
3 - Foreign Laboratories	N	7	1.37	0.23	0.25	18.4	0.75	1.98

Na₂O (A.M.U)
Mean 0.14 +/- 0.01

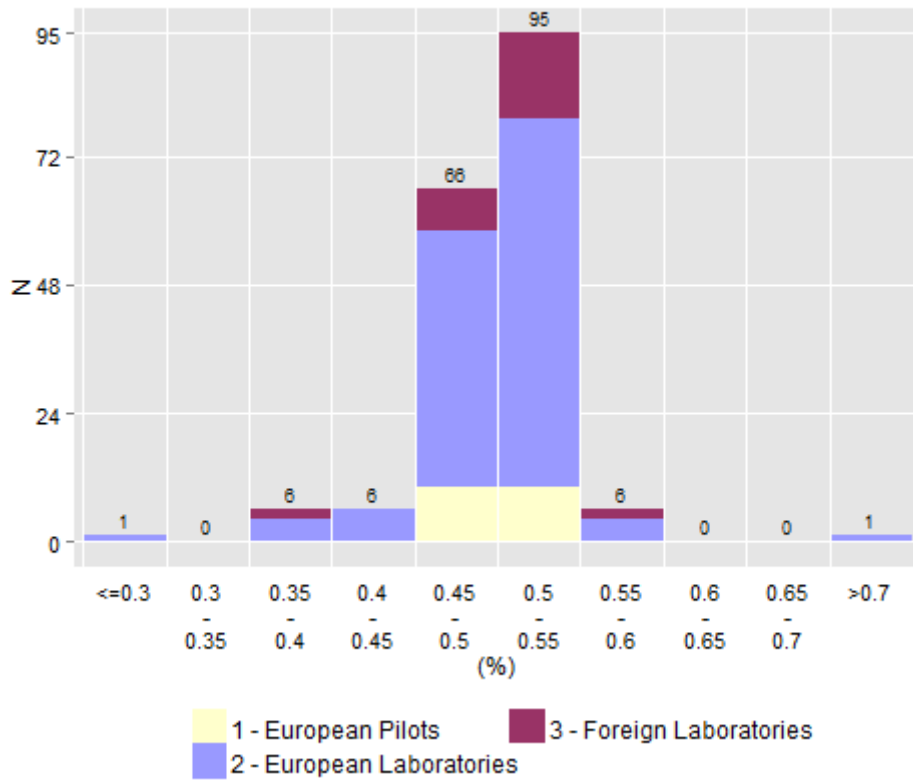


Na₂O - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - Pilotes Européens	A.M.U	19	0.15	0.01	0.02	10.9	0.11	0.18
2 - Laboratoires Européens	A.M.U	126	0.14	0.01	0.03	23.2	0.07	0.20
3 - Laboratoires Etrangers	A.M.U	26	0.15	0.01	0.02	15.2	0.10	0.19

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	4	0.17	0.01	0.01	4.8	0.14	0.20
1 - European Pilots	X	14	0.14	0.01	0.01	6.9	0.12	0.16
2 - European Laboratories	A	5	0.15	0.01	0.01	7.4	0.12	0.19
2 - European Laboratories	K	22	0.15	0.01	0.02	15.7	0.10	0.20
2 - European Laboratories	M	7	0.14	0.04	0.04	30.7	0.04	0.25
2 - European Laboratories	N	2	0.13	0.44	0.05	39.6	0.00	0.75
2 - European Laboratories	X	90	0.13	0.01	0.03	24.4	0.07	0.20
3 - Foreign Laboratories	K	4	0.15	0.01	0.01	4.0	0.13	0.16
3 - Foreign Laboratories	M	3	0.15	0.06	0.02	15.4	0.05	0.24
3 - Foreign Laboratories	N	2	0.13	0.19	0.02	17.0	0.00	0.39
3 - Foreign Laboratories	X	17	0.15	0.01	0.02	16.6	0.10	0.20

K2O (A.M.U)
Mean 0.51 +/- 0.005

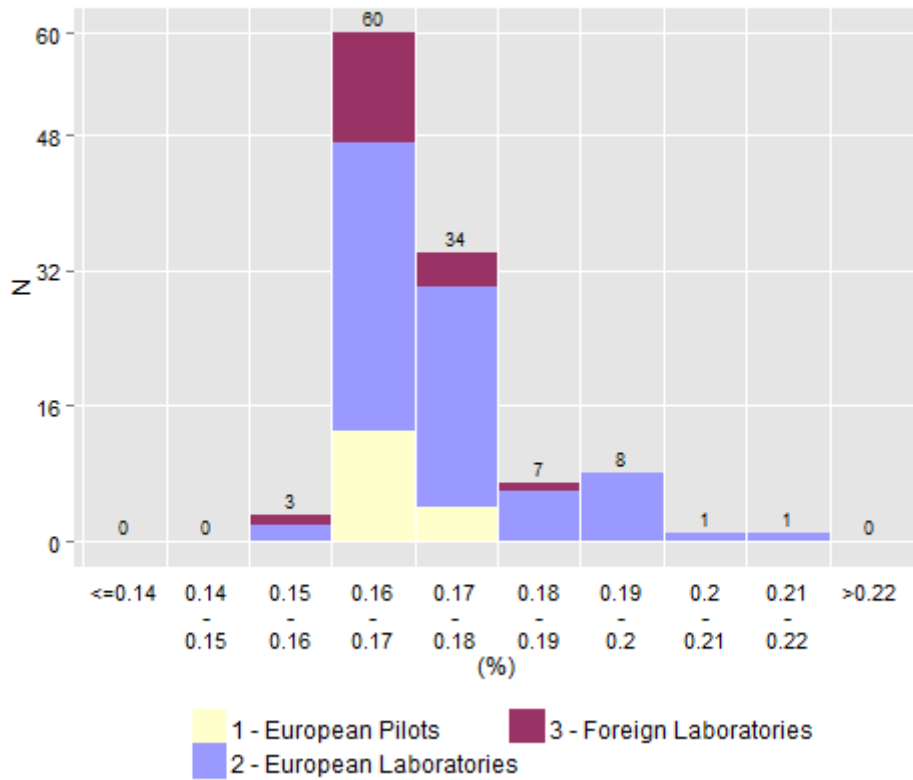


K₂O - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	20	0.51	0.01	0.02	3.8	0.47	0.55
2 - European Laboratories	A.M.U	126	0.51	0.00	0.03	5.3	0.45	0.56
3 - Foreign Laboratories	A.M.U	26	0.52	0.01	0.02	3.9	0.47	0.56

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	3	0.50	0.05	0.02	4.0	0.41	0.59
1 - European Pilots	M	2	0.52	0.13	0.01	2.7	0.34	0.70
1 - European Pilots	X	14	0.51	0.01	0.02	4.1	0.46	0.55
1 - European Pilots	A	5	0.51	0.03	0.02	4.3	0.45	0.57
2 - European Laboratories	K	17	0.48	0.02	0.04	8.5	0.39	0.57
2 - European Laboratories	M	6	0.52	0.01	0.01	2.6	0.48	0.55
2 - European Laboratories	X	97	0.51	0.00	0.02	4.2	0.47	0.56
2 - European Laboratories	K	3	0.51	0.03	0.01	2.6	0.45	0.56
3 - Foreign Laboratories	M	3	0.52	0.02	0.01	1.9	0.48	0.56
3 - Foreign Laboratories	X	18	0.52	0.01	0.02	4.4	0.47	0.57

TiO₂ (A.M.U)
Mean 0.17 +/- 0.002

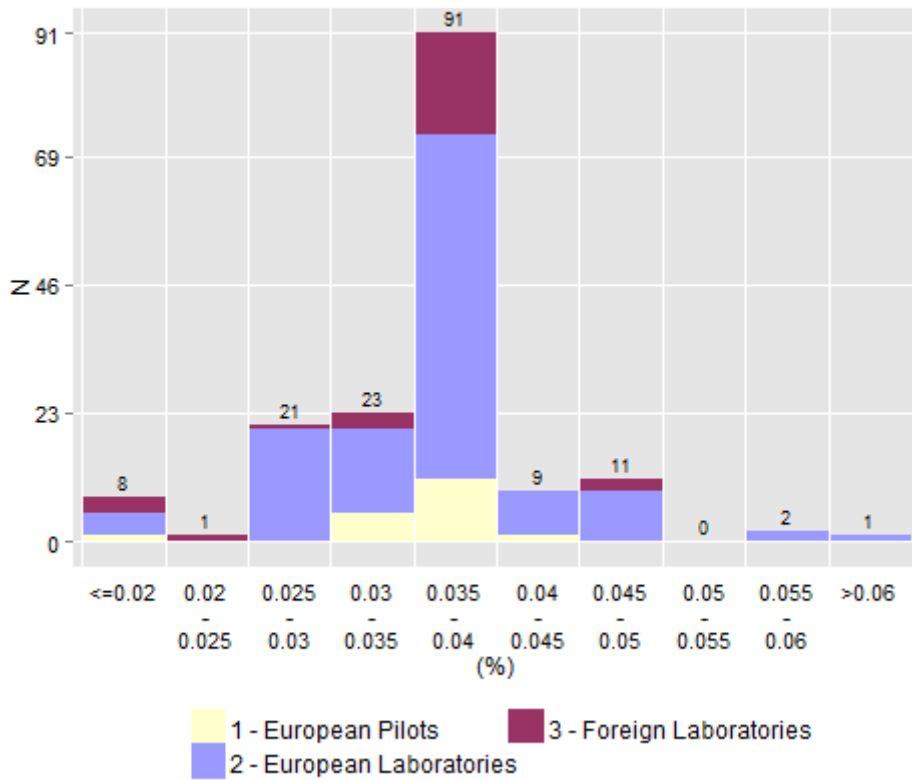


TiO₂ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	0.17	0.00	0.00	2.6	0.16	0.18
2 - European Laboratories	A.M.U	75	0.18	0.00	0.01	5.2	0.16	0.20
3 - Foreign Laboratories	A.M.U	18	0.17	0.00	0.01	3.0	0.16	0.18

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	X	17	0.17	0.00	0.00	2.6	0.16	0.18
2 - European Laboratories	N	7	0.17	0.00	0.01	3.1	0.16	0.19
2 - European Laboratories	X	68	0.18	0.00	0.01	5.4	0.16	0.20
3 - Foreign Laboratories	N	4	0.17	0.00	0.00	0.0	0.17	0.17
3 - Foreign Laboratories	X	14	0.17	0.00	0.01	3.4	0.16	0.18

Chloride (A.M.U)
Mean 0.04 +/- 0.001

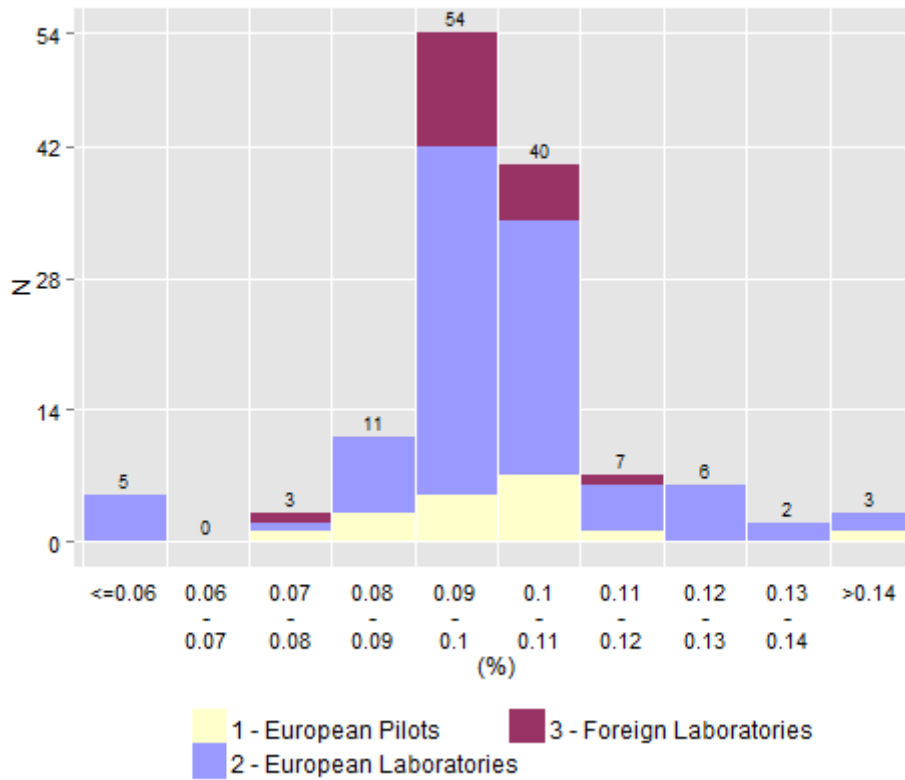


Chloride - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	0.04	0.00	0.00	8.6	0.03	0.04
2 - European Laboratories	A.M.U	118	0.04	0.00	0.01	16.6	0.03	0.05
3 - Foreign Laboratories	A.M.U	26	0.04	0.00	0.01	17.8	0.02	0.05

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	K	3	0.04	0.01	0.01	14.0	0.01	0.06
1 - European Pilots	M	5	0.04	0.00	0.00	8.9	0.03	0.05
1 - European Pilots	P	7	0.04	0.00	0.00	8.3	0.03	0.05
1 - European Pilots	X	2	0.04	0.01	0.00	3.6	0.02	0.06
2 - European Laboratories	K	9	0.04	0.00	0.00	10.2	0.03	0.05
2 - European Laboratories	M	34	0.04	0.00	0.00	12.2	0.03	0.05
2 - European Laboratories	N	8	0.04	0.01	0.01	28.9	0.01	0.06
2 - European Laboratories	P	32	0.04	0.00	0.01	17.7	0.02	0.05
2 - European Laboratories	X	35	0.04	0.00	0.01	17.5	0.00	0.05
3 - Foreign Laboratories	K	3	0.03	0.03	0.01	38.0	0.00	0.08
3 - Foreign Laboratories	M	7	0.04	0.00	0.00	6.3	0.03	0.04
3 - Foreign Laboratories	P	6	0.04	0.00	0.00	4.2	0.03	0.04
3 - Foreign Laboratories	X	7	0.04	0.01	0.01	26.9	0.01	0.06

P2O5 (A.M.U)
Mean 0.11 +/- 0.002

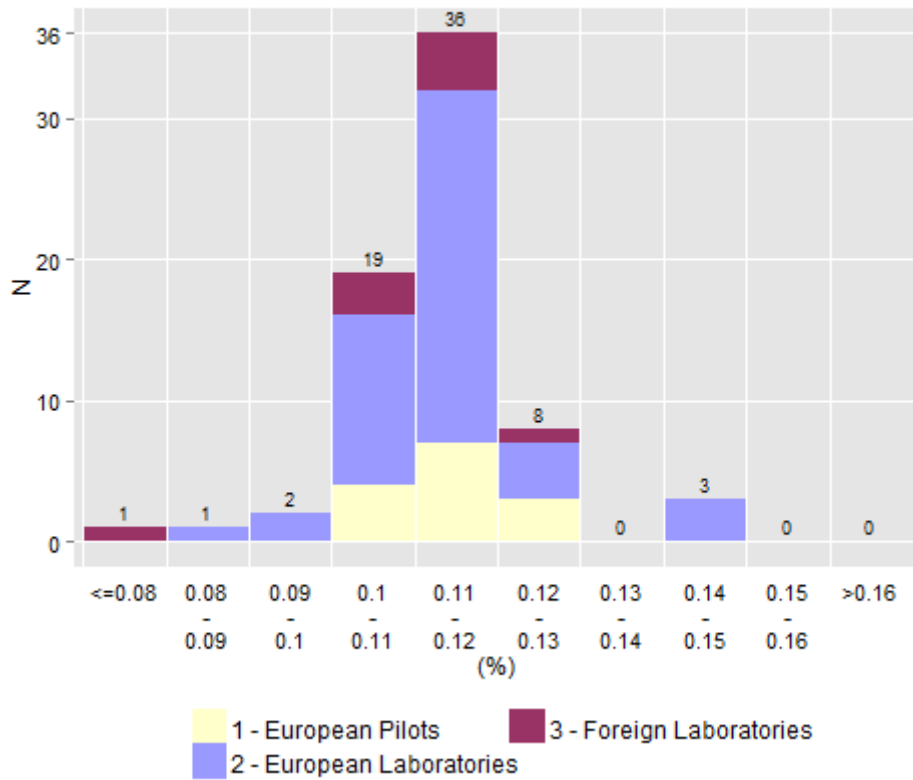


P₂O₅ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	0.10	0.01	0.01	9.8	0.08	0.12
2 - European Laboratories	A.M.U	86	0.11	0.00	0.01	10.7	0.08	0.13
3 - Foreign Laboratories	A.M.U	19	0.10	0.00	0.01	5.8	0.09	0.12

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	X	16	0.10	0.00	0.01	9.0	0.08	0.12
2 - European Laboratories	N	5	0.11	0.02	0.02	13.3	0.07	0.16
2 - European Laboratories	X	81	0.11	0.00	0.01	10.4	0.08	0.13
3 - Foreign Laboratories	N	3	0.11	0.02	0.01	9.1	0.07	0.15
3 - Foreign Laboratories	X	16	0.10	0.00	0.00	4.6	0.09	0.11

SrO (A.M.U)
Mean 0.12 +/- 0.002

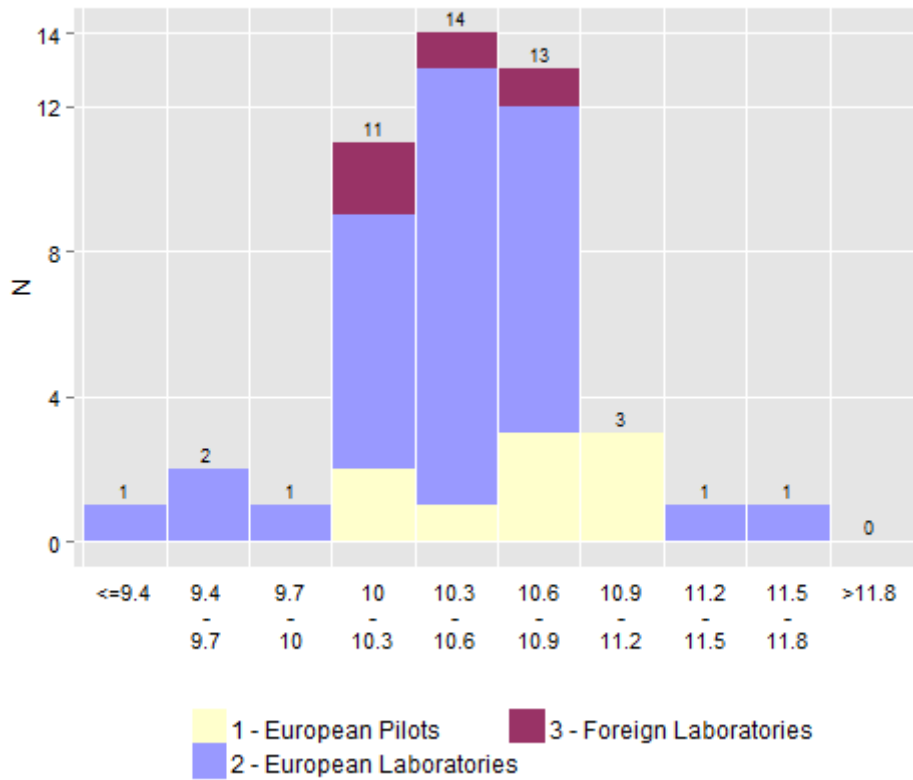


SrO - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	14	0.12	0.00	0.01	6.1	0.10	0.14
2 - European Laboratories	A.M.U	44	0.12	0.00	0.01	6.7	0.10	0.13
3 - Foreign Laboratories	A.M.U	8	0.12	0.01	0.01	6.0	0.10	0.13

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	X	14	0.12	0.00	0.01	6.1	0.10	0.14
2 - European Laboratories	N	5	0.12	0.01	0.01	8.3	0.09	0.15
2 - European Laboratories	X	39	0.12	0.00	0.01	6.5	0.10	0.13
3 - Foreign Laboratories	N	2	0.12	0.06	0.01	6.1	0.03	0.20
3 - Foreign Laboratories	X	6	0.12	0.01	0.01	6.4	0.10	0.14

CO₂ (A.M.U)
Mean 10.49 +/- 0.13



CO₂ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	9	10.67	0.30	0.39	3.7	9.77	11.58
2 - European Laboratories	A.M.U	32	10.45	0.13	0.35	3.3	9.74	11.16
3 - Foreign Laboratories	A.M.U	4	10.41	0.29	0.18	1.8	9.82	10.99

S₂ - By Labo Group & Method

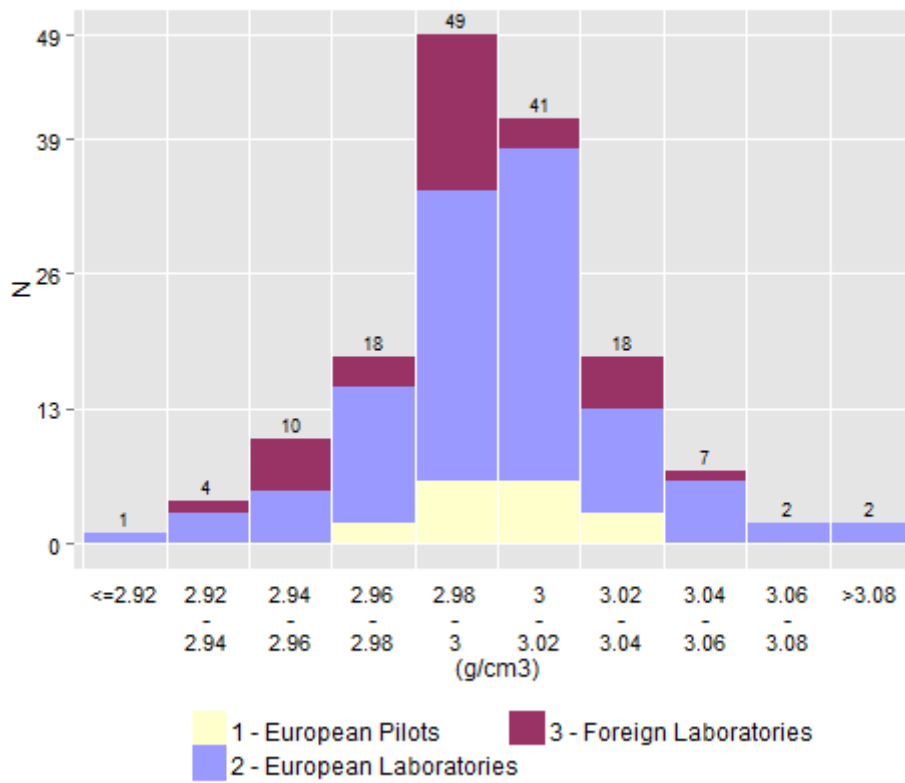
Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	4	0.01	0.01	0.01	40.0	0.00	0.03
2 - European Laboratories	A.M.U	28	0.01	0.00	0.01	123.0	-0.02	0.04
3 - Foreign Laboratories	A.M.U	2	0.01	0.04	0.00	76.1	-0.06	0.07

Cr₆₊ - By Labo Group & Method

Labo Group	Method	Number of Results	Mean(ppm)	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	3	0.000057	0.000121	0.000049	85.5	-0.00015	0.000267
2 - European Laboratories	A.M.U	53	0.000112	0.000034	0.000122	109.6	-0.00013	0.000357
3 - Foreign Laboratories	A.M.U	5	0.000070	0.000043	0.000034	48.9	-0.00003	0.000165

Physical Tests

Specific Gravity (A.M.U)
Mean 3.00 +/- 0.01

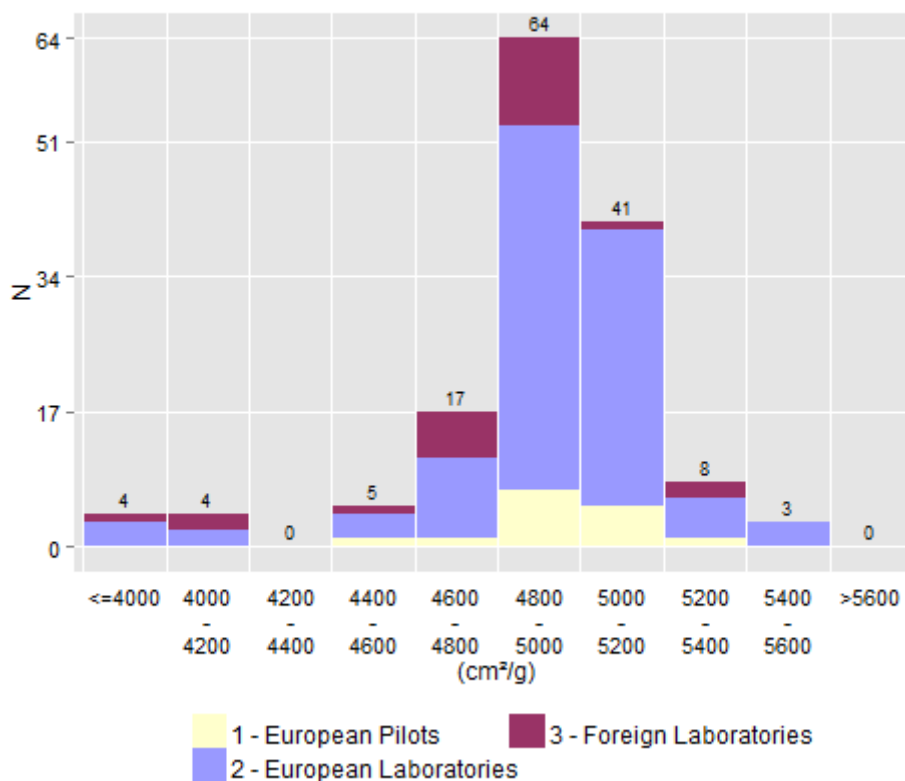


Specific Gravity - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	3.01	0.01	0.02	0.6	2.97	3.04
2 - European Laboratories	A.M.U	98	3.00	0.01	0.03	0.9	2.95	3.05
3 - Foreign Laboratories	A.M.U	33	3.00	0.01	0.03	1.0	2.94	3.05

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	9	3.01	0.01	0.01	0.4	2.98	3.04
1 - European Pilots	V	8	3.01	0.02	0.02	0.7	2.95	3.06
2 - European Laboratories	A	52	3.01	0.01	0.03	0.9	2.96	3.06
2 - European Laboratories	V	46	3.00	0.01	0.02	0.8	2.95	3.04
3 - Foreign Laboratories	A	10	3.00	0.02	0.03	1.0	2.94	3.07
3 - Foreign Laboratories	V	22	2.99	0.01	0.02	0.8	2.94	3.04

Specific surface (A.M.U)
Mean 4957 +/- 37

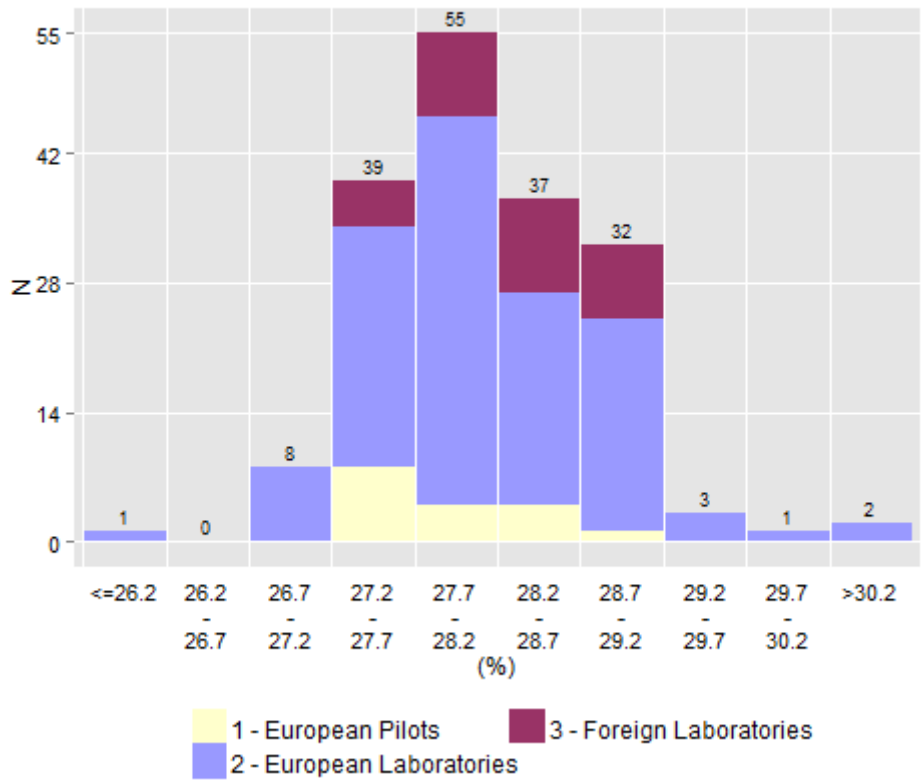


Specific surface - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	14	5001	65	113	2.3	4757	5245
2 - European Laboratories	A.M.U	98	4976	33	163	3.3	4651	5300
3 - Foreign Laboratories	A.M.U	22	4846	114	256	5.3	4314	5379

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	8	4998	113	135	2.7	4678	5317
1 - European Pilots	G	2	4988	95	11	0.2	4853	5122
1 - European Pilots	N	4	5016	176	111	2.2	4663	5368
2 - European Laboratories	A	31	4979	64	173	3.5	4625	5332
2 - European Laboratories	G	33	4946	42	119	2.4	4704	5188
2 - European Laboratories	L	5	5213	360	290	5.6	4409	6017
2 - European Laboratories	N	29	4965	55	145	2.9	4669	5262
3 - Foreign Laboratories	A	8	4761	245	293	6.2	4067	5455
3 - Foreign Laboratories	G	3	5067	812	327	6.5	3661	6474
3 - Foreign Laboratories	N	10	4849	142	199	4.1	4399	5299

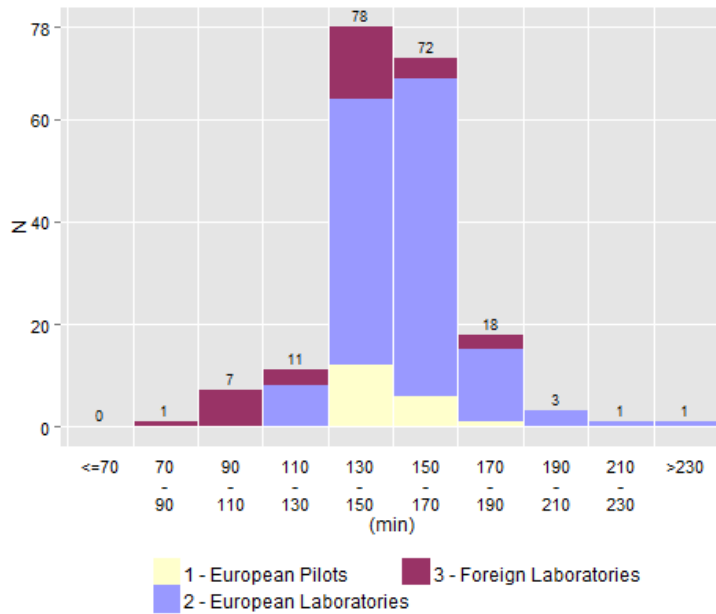
Normal consistency (A.M.U)
Mean 28.1 +/- 0.1



Normal consistency - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	27.9	0.2	0.5	1.7	26.9	29.0
2 - European Laboratories	A.M.U	125	28.1	0.1	0.6	2.2	26.9	29.3
3 - Foreign Laboratories	A.M.U	32	28.3	0.2	0.5	1.7	27.3	29.3

Initial setting time (A.M.U)
Mean 153 +/- 2



Initial setting time - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	19	151	5	11	7.0	128	173
2 - European Laboratories	A.M.U	136	154	2	14	8.9	127	181
3 - Foreign Laboratories	A.M.U	25	146	7	17	11.8	110	181

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	16	150	6	11	7.6	126	175
1 - European Pilots	M	3	152	7	3	1.9	139	164
2 - European Laboratories	A	107	155	3	13	8.4	130	181
2 - European Laboratories	M	29	150	6	15	10.1	119	180
3 - Foreign Laboratories	A	11	146	8	12	8.5	118	174
3 - Foreign Laboratories	M	14	145	12	21	14.2	101	190

Soundness - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	16	0.39	0.22	0.42	107.4	-0.50	1.27
2 - European Laboratories	A.M.U	118	0.49	0.08	0.43	86.8	-0.35	1.33
3 - Foreign Laboratories	A.M.U	24	0.57	0.16	0.37	66.2	-0.21	1.34

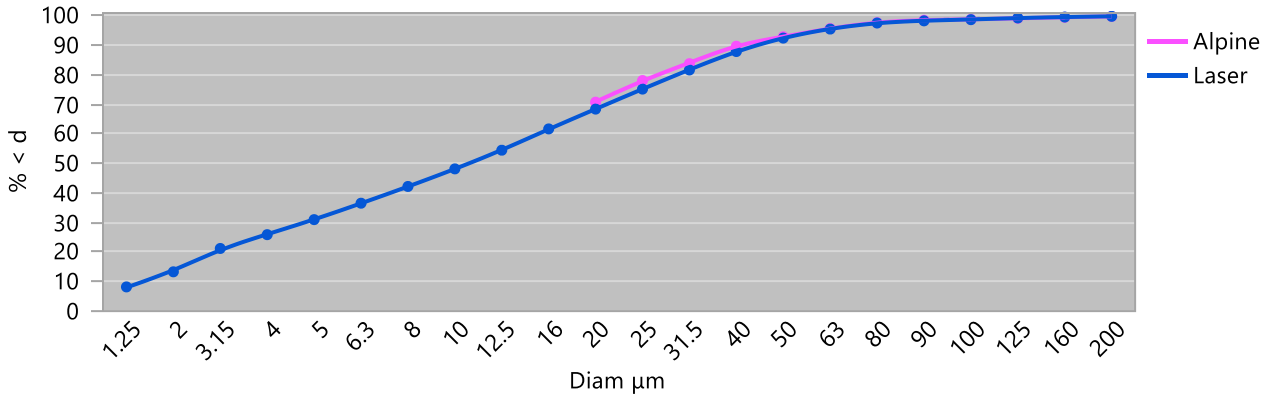
Workability - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	2	3.7	1.3	0.1	3.8	1.9	5.5
2 - European Laboratories	A.M.U	7	5.2	1.5	1.6	31.6	1.2	9.2

Fluidity - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	2	4.7	0.6	0.1	1.5	3.8	5.5
2 - European Laboratories	A.M.U	1	6.9					
3 - Foreign Laboratories	A.M.U	1	8.9					

Granulometry - Alpine / Laser



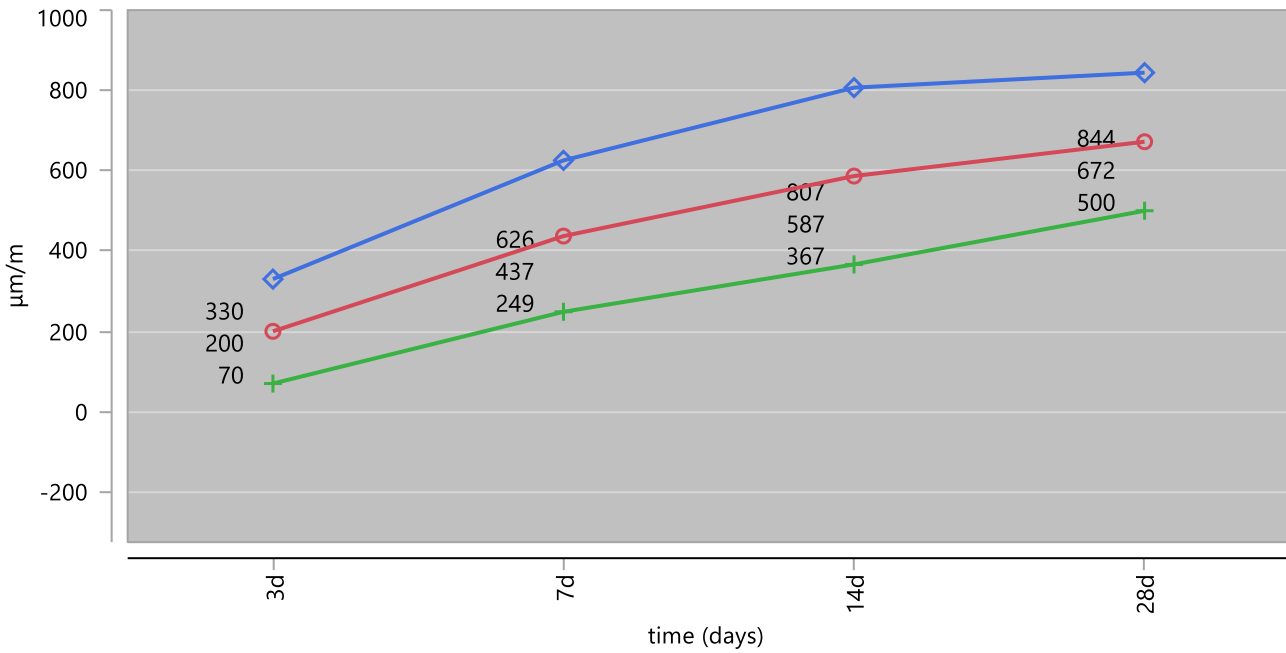
Granulometry - By Method

METHOD	Granulometry																					
	Mean																					
	1.25	1.6	2	2.5	3.15	4	5	6.3	8	10	12.5	16	20	25	31.5	40	50	63	80	100	125	160
Alpine											70.8	78.1	83.8	89.8	93.0	95.7	97.7	98.6	98.8	99.2	99.6	99.9
Laser	8.2	13.3	21.2	25.9	31.0	36.6	42.2	48.2	54.5	61.7	68.5	75.2	81.7	88.0	92.5	95.6	97.6	98.4	98.8	99.3	99.6	99.9

Granulometry - By Labo Group & Dimension

Sieve	1 - European Pilots					2 - European Laboratories					3 - Foreign Laboratories							
	\bar{x}	ϵ (5%)	Repro Std	CV (%)	Lm95 %	LM95 %	\bar{x}	ϵ (5%)	Repro Std	CV (%)	Lm95 %	LM95 %	\bar{x}	ϵ (5%)	Repro Std	CV (%)	Lm95 %	LM95 %
	A.M.U					A.M.U					A.M.U							
1.25	8.3	3.9	8.3	50.9	-2.0	18.6	8.4	1.0	8.4	37.6	2.0	14.9	6.4	1.5	6.4	23.2	2.6	10.1
2	13.7	4.1	13.7	32.6	2.8	24.7	13.5	1.1	13.5	27.1	6.1	20.8	11.5	2.4	11.5	19.6	5.7	17.3
3.15	21.5	4.0	21.5	20.2	10.9	32.1	21.0	1.1	21.0	18.6	13.2	28.8	22.4	5.8	22.4	31.0	6.0	38.8
4	26.4	4.0	26.4	16.4	15.8	36.9	25.6	1.2	25.6	15.9	17.5	33.8	27.2	5.7	27.2	25.1	11.1	43.4
5	31.4	4.2	31.4	14.6	20.2	42.7	30.8	1.1	30.8	12.4	23.1	38.4	32.1	5.4	32.1	20.2	16.8	47.4
6.3	36.9	4.5	36.9	13.2	25.0	48.9	36.3	1.2	36.3	11.0	28.3	44.3	38.0	5.9	38.0	18.4	21.4	54.5
8	42.4	4.6	42.4	11.8	30.1	54.7	41.9	1.1	41.9	9.3	34.1	49.8	43.9	5.8	43.9	15.8	27.5	60.3
10	48.6	4.8	48.6	10.6	36.0	61.3	47.9	1.2	47.9	8.3	39.9	55.9	49.5	5.6	49.5	13.5	33.7	65.4
12.5	54.6	4.6	54.6	9.2	42.3	66.8	54.2	1.2	54.2	7.8	45.7	62.8	56.2	6.1	56.2	13.1	38.8	73.6
16	61.6	4.6	61.6	8.1	49.4	73.8	61.5	1.3	61.5	7.4	52.4	70.6	63.2	6.0	63.2	11.3	46.3	80.1
20	68.4	4.7	68.4	7.4	56.1	80.7	68.4	1.3	68.4	6.6	59.3	77.5	69.4	4.7	69.4	8.9	55.2	83.6
25	73.9	6.0	73.9	8.8	58.1	89.8	75.5	1.2	75.5	6.0	66.4	84.5	76.4	4.6	76.4	7.8	62.7	90.2
31.5	81.7	4.1	81.7	5.4	70.9	92.4	81.9	1.1	81.9	4.9	73.8	90.0	81.9	3.1	81.9	4.9	72.5	91.2
40	88.7	1.9	88.7	3.4	81.9	95.4	88.4	0.8	88.4	4.1	81.2	95.6	89.5	2.2	89.5	4.0	81.7	97.3
50	92.5	1.4	92.5	2.5	87.5	97.5	92.5	0.6	92.5	2.9	87.3	97.8	94.0	0.9	94.0	1.6	90.7	97.3
63	95.6	1.1	95.6	1.8	91.8	99.4	95.6	0.5	95.6	2.3	91.3	99.9	95.9	0.9	95.9	1.7	92.5	99.3
80	97.6	0.8	97.6	1.2	95.0	100.3	97.6	0.3	97.6	1.6	94.6	100.7	98.0	0.5	98.0	0.9	96.1	99.8
90	98.4	0.7	98.4	1.1	96.1	100.7	98.4	0.3	98.4	1.3	95.9	100.9	98.7	0.4	98.7	0.7	97.3	100.1
100	98.7	0.6	98.7	0.9	96.7	100.8	98.7	0.3	98.7	1.2	96.3	101.1	99.2	0.4	99.2	0.7	97.8	100.7
125	99.3	0.5	99.3	0.7	97.7	100.8	99.2	0.2	99.2	0.8	97.6	100.9	99.6	0.3	99.6	0.4	98.7	100.5
160	99.6	0.3	99.6	0.5	98.5	100.8	99.6	0.2	99.6	0.6	98.3	100.8	99.8	0.2	99.8	0.2	99.3	100.4
200	100.0	0.1	100.0	0.1	99.8	100.1	99.9	0.1	99.9	0.2	99.4	100.3	99.9	0.1	99.9	0.1	99.7	100.2

Shrinkage - Mean A.M.U



γ ○ — Mean + — Lmin95% ◇ — Lmax95%

Shrinkage 3d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	3	175	126	51	29.0	-43	394
2 - European Laboratories	A.M.U	13	190	24	40	21.0	103	277
3 - Foreign Laboratories	A.M.U	1	217					

Shrinkage 7d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	4	426	76	48	11.3	273	578
2 - European Laboratories	A.M.U	12	432	21	34	7.8	358	506
3 - Foreign Laboratories	A.M.U	4	532	174	109	20.5	185	880

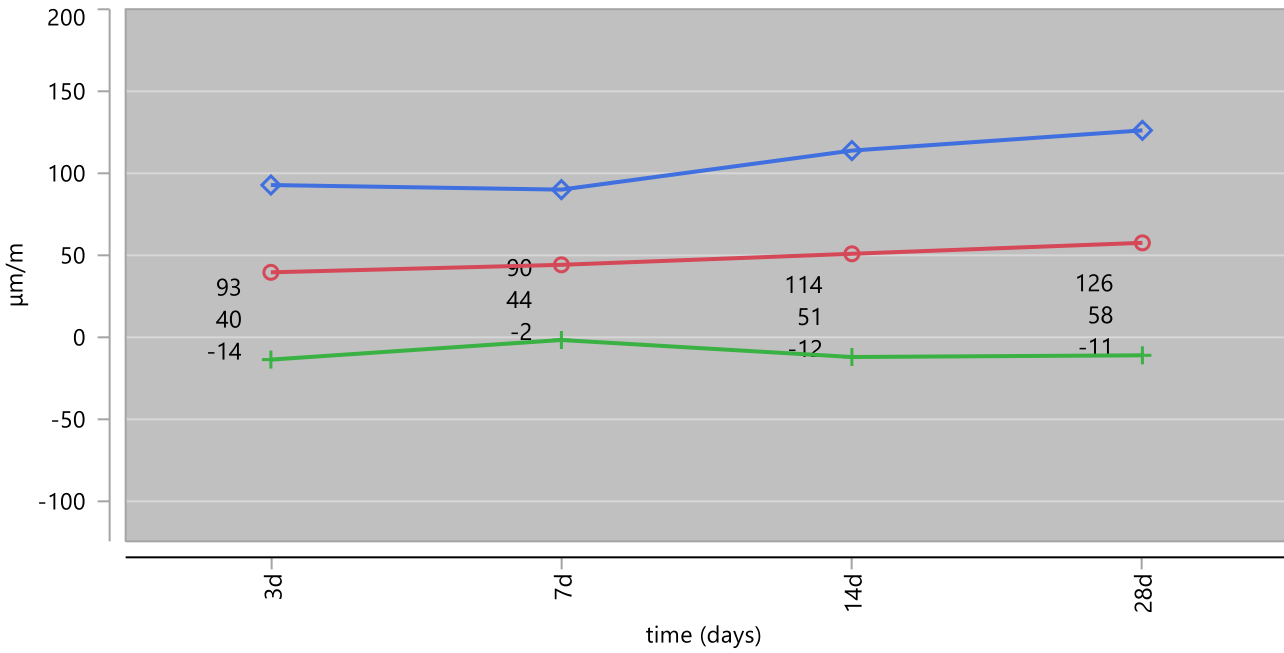
Shrinkage 14d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	4	597	67	42	7.1	463	730
2 - European Laboratories	A.M.U	12	590	45	71	12.0	434	746
3 - Foreign Laboratories	A.M.U	4	643	219	138	21.4	206	1081

Shrinkage 28d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	4	693	83	52	7.5	527	859
2 - European Laboratories	A.M.U	14	656	50	86	13.1	471	842
3 - Foreign Laboratories	A.M.U	4	708	156	98	13.9	396	1020

Swelling - Mean A.M.U



○ — Mean + — Lmin95% ◇ — Lmax95%

Swelling 3d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	2	25	70	8	31.7	-74	123
2 - European Laboratories	A.M.U	8	43	21	25	57.5	-16	102

Swelling 7d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	2	37	40	4	12.2	-20	94
2 - European Laboratories	A.M.U	9	46	17	23	49.3	-6	98

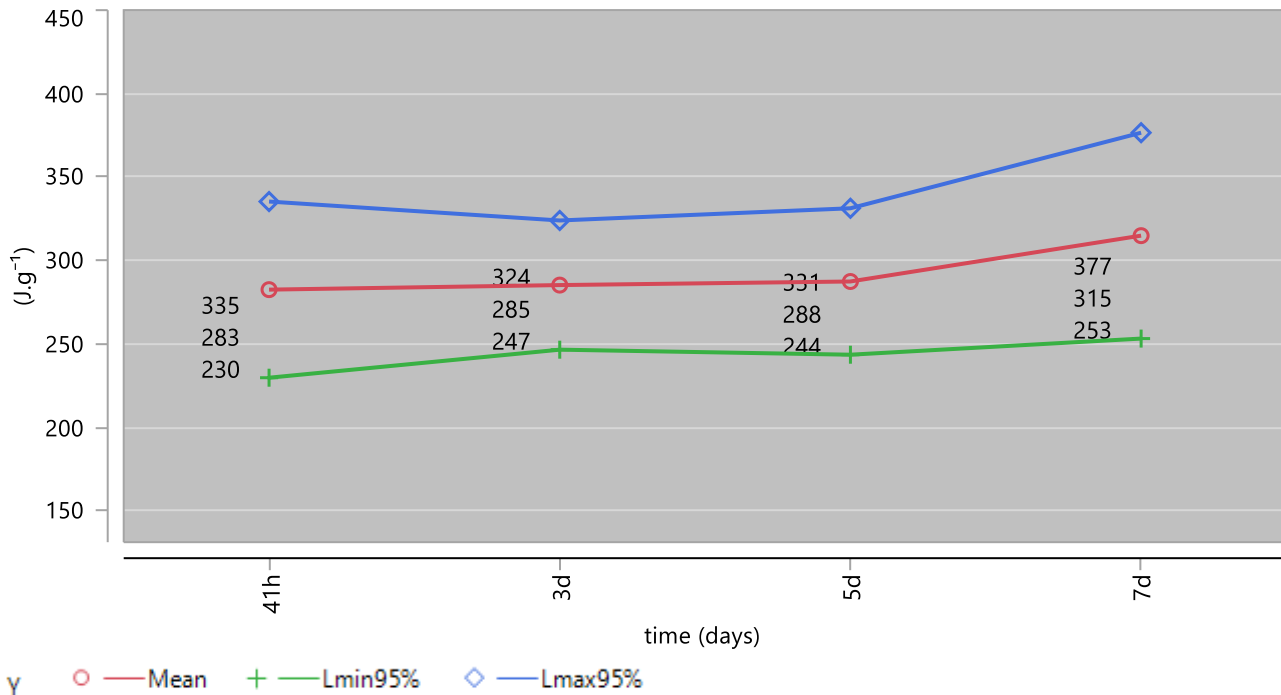
Swelling 14d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	2	39	72	8	20.4	-62	141
2 - European Laboratories	A.M.U	7	54	28	30	56.1	-20	129

Swelling 28d - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	3	46	34	14	29.2	-12	105
2 - European Laboratories	A.M.U	9	61	27	35	57.2	-20	142

Heat of hydration - Mean A.M.U



Heat of hydration 41h - By Labo Group & Method (Semi-adiabatic method)

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	8	291	12	14	4.8	258	324
2 - European Laboratories	A.M.U	24	278	7	17	6.0	244	313
3 - Foreign Laboratories	A.M.U	5	267	17	14	5.2	229	306

Heat of hydration 3d - By Labo Group & Method (Semi-adiabatic method)

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	6	300	16	15	5.1	261	340
2 - European Laboratories	A.M.U	19	281	9	18	6.4	243	318
3 - Foreign Laboratories	A.M.U	6	286	21	20	7.0	235	337

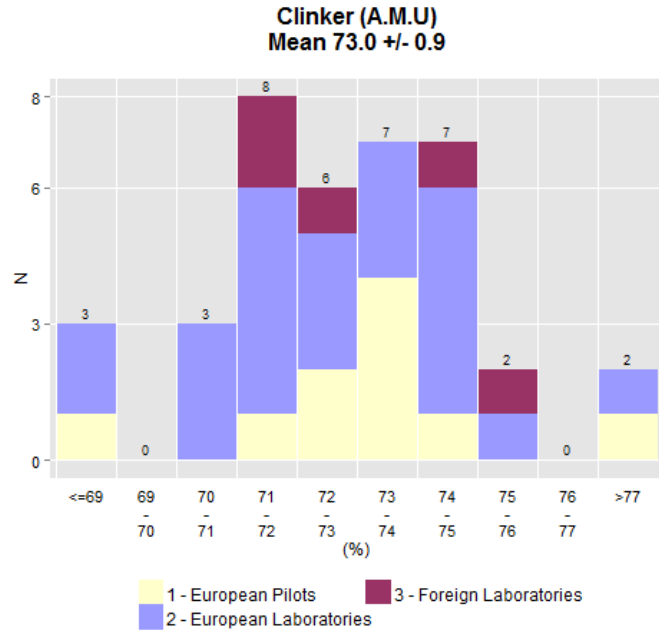
Heat of hydration 5d - By Labo Group & Method (Semi-adiabatic method)

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	5	302	23	19	6.2	250	354
2 - European Laboratories	A.M.U	18	288	9	17	6.0	251	324
3 - Foreign Laboratories	A.M.U	4	282	40	25	8.8	203	362

Heat of hydration 7d - By Labo Group & Method (Solution method)

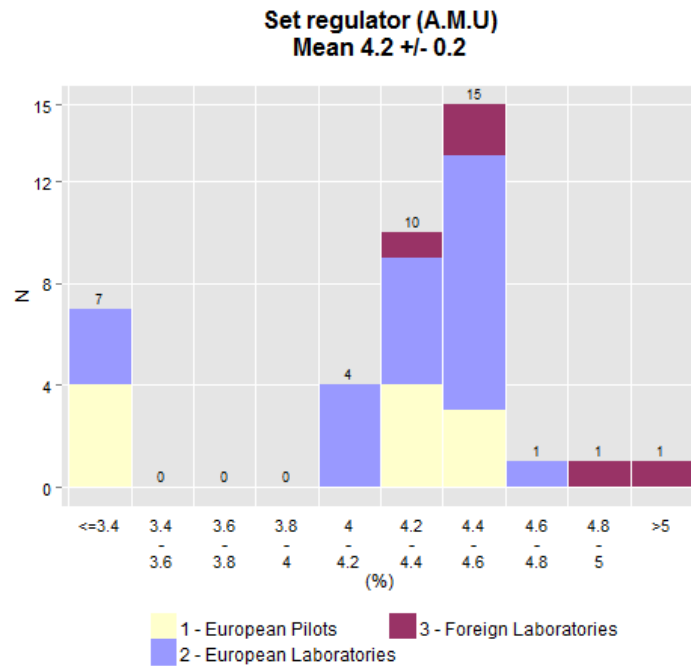
Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	1	283					
2 - European Laboratories	A.M.U	7	304	20	21	7.0	252	356
3 - Foreign Laboratories	A.M.U	4	342	30	19	5.5	283	402

Mineralogy



Clinker - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	10	73.0	1.9	2.6	3.6	67.1	78.9
2 - European Laboratories	A.M.U	22	73.0	0.9	2.0	2.8	68.7	77.2
3 - Foreign Laboratories	A.M.U	5	73.1	2.3	1.9	2.6	67.9	78.3

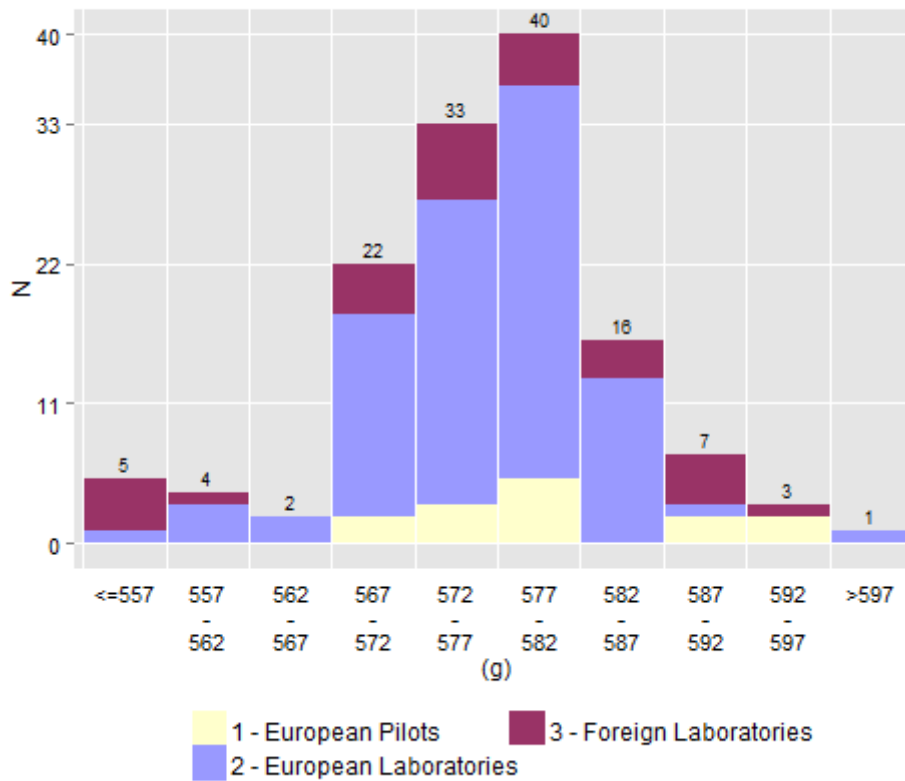


Set regulator - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	10	3.9	0.6	0.9	23.4	1.8	5.9
2 - European Laboratories	A.M.U	22	4.3	0.2	0.4	9.1	3.5	5.1
3 - Foreign Laboratories	A.M.U	5	4.7	0.4	0.4	7.5	3.7	5.7

Mechanical Tests

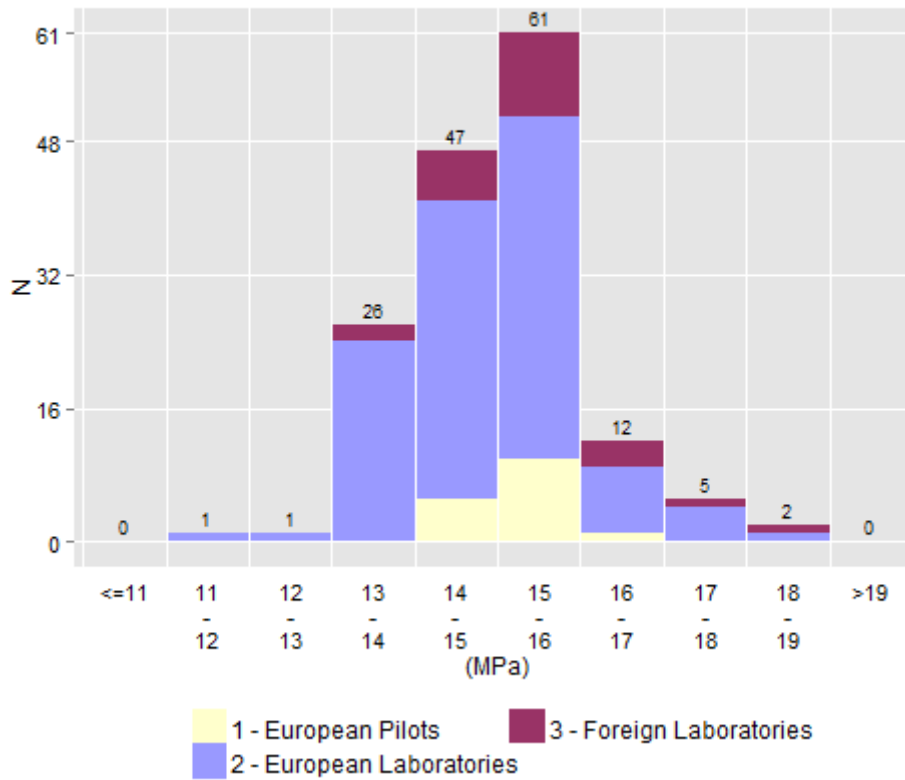
Mean of weight of samples at demoulding (A.M.U)
Mean 577.6 +/- 1.4



Mean of weight of samples at demoulding - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	14	580.5	4.7	8.2	1.4	562.9	598.1
2 - European Laboratories	A.M.U	88	576.7	1.2	5.8	1.0	565.2	588.3
3 - Foreign Laboratories	A.M.U	23	579.3	3.6	8.4	1.4	561.9	596.7

Compression 1 day (A.M.U)
Mean 15.0 +/- 0.2

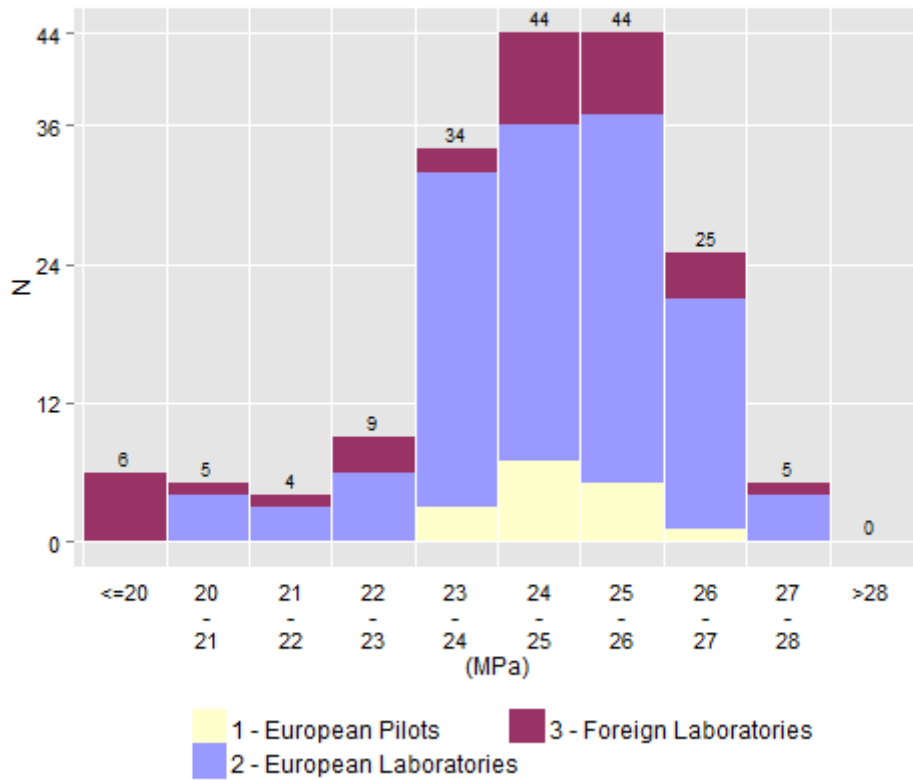


Compression 1 day - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	16	15.3	0.2	0.4	2.8	14.4	16.2
2 - European Laboratories	A.M.U	112	14.9	0.2	1.0	6.4	13.1	16.8
3 - Foreign Laboratories	A.M.U	22	15.3	0.4	1.0	6.3	13.3	17.3

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	13	15.3	0.3	0.4	2.9	14.4	16.3
1 - European Pilots	D	3	15.3	1.0	0.4	2.7	13.5	17.1
2 - European Laboratories	A	81	14.9	0.2	1.0	6.6	12.9	16.9
2 - European Laboratories	B	2	15.6	5.0	0.6	3.6	8.5	22.7
2 - European Laboratories	D	25	15.1	0.4	0.9	6.2	13.1	17.0
2 - European Laboratories	N	4	14.6	0.7	0.5	3.2	13.1	16.0
3 - Foreign Laboratories	A	11	15.3	0.7	1.0	6.4	13.1	17.5
3 - Foreign Laboratories	B	5	15.0	1.0	0.8	5.6	12.7	17.3
3 - Foreign Laboratories	N	2	15.5	0.4	0.0	0.3	14.9	16.1

Compression 2 days (A.M.U)
Mean 24.8 +/- 0.2

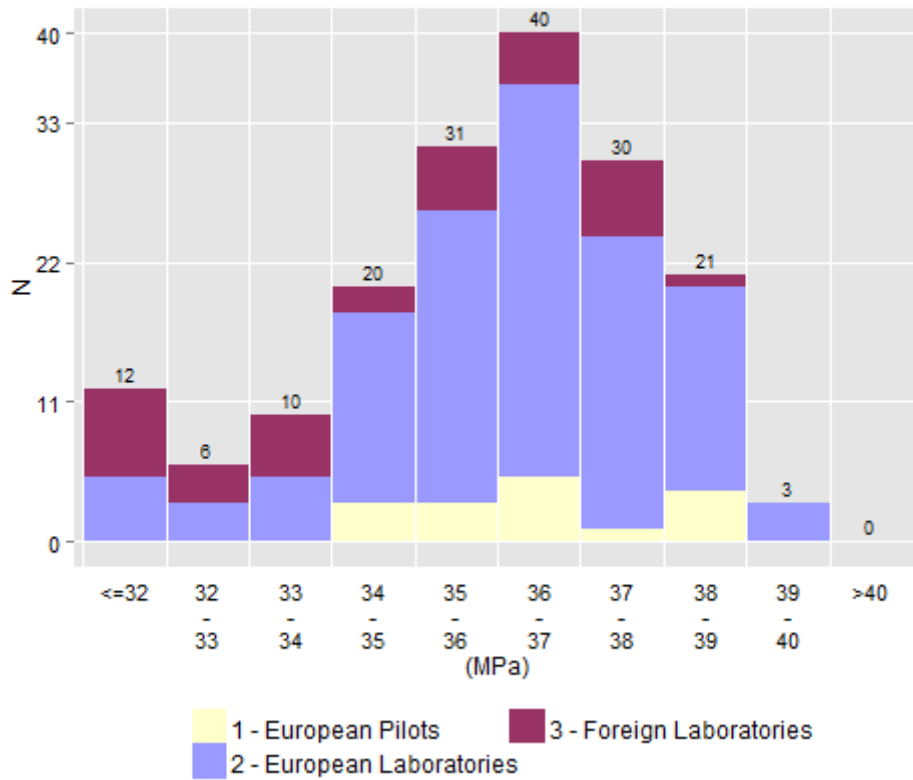


Compression 2 days - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	16	24.8	0.4	0.7	3.0	23.2	26.4
2 - European Laboratories	A.M.U	123	24.8	0.2	1.3	5.2	22.2	27.3
3 - Foreign Laboratories	A.M.U	26	24.7	0.6	1.4	5.7	21.8	27.6

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	13	24.7	0.4	0.7	2.8	23.2	26.2
1 - European Pilots	D	3	25.3	2.2	0.9	3.5	21.5	29.1
2 - European Laboratories	A	92	24.7	0.3	1.4	5.5	22.0	27.4
2 - European Laboratories	B	2	25.0	9.1	1.0	4.0	12.2	37.8
2 - European Laboratories	D	25	24.8	0.4	1.1	4.3	22.6	27.0
2 - European Laboratories	N	4	24.9	1.2	0.7	2.9	22.6	27.2
3 - Foreign Laboratories	A	12	24.8	0.9	1.4	5.6	21.8	27.9
3 - Foreign Laboratories	B	6	24.0	1.2	1.1	4.6	21.2	26.8
3 - Foreign Laboratories	C	3	25.0	6.0	2.4	9.6	14.6	35.4
3 - Foreign Laboratories	N	3	25.0	0.8	0.3	1.2	23.6	26.3

Compression 7 days (A.M.U)
Mean 36.2 +/- 0.3

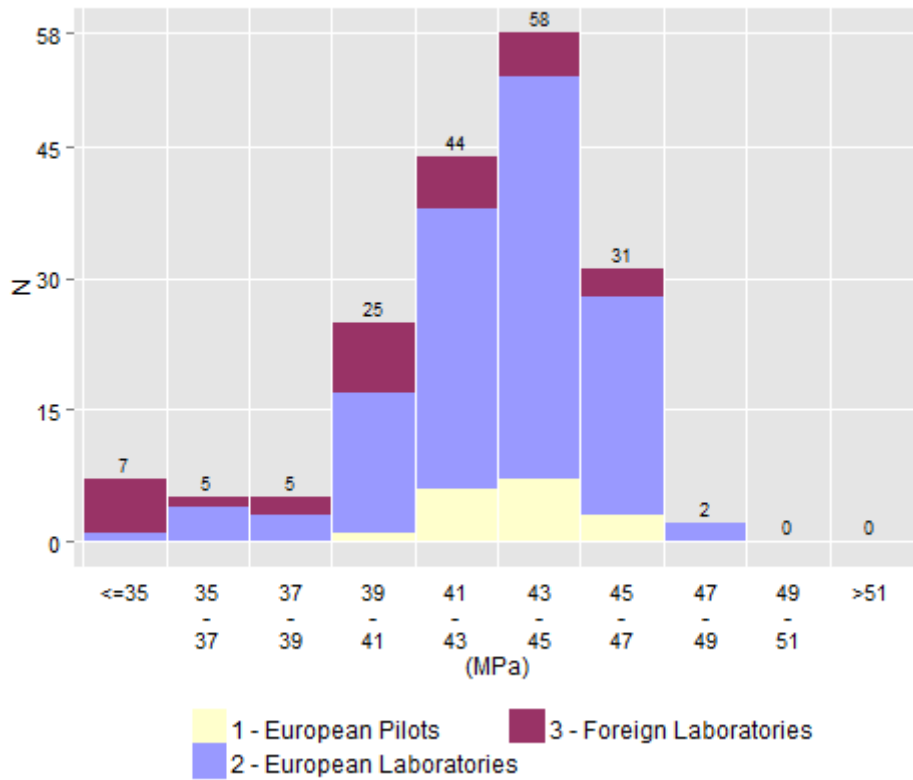


Compression 7 days - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	16	36.5	0.8	1.5	4.1	33.3	39.6
2 - European Laboratories	A.M.U	120	36.3	0.3	1.6	4.4	33.2	39.5
3 - Foreign Laboratories	A.M.U	26	35.4	0.7	1.8	5.2	31.6	39.2

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	13	36.3	0.9	1.5	4.2	33.0	39.5
1 - European Pilots	D	3	37.5	2.3	0.9	2.5	33.5	41.5
2 - European Laboratories	A	87	36.3	0.4	1.7	4.7	33.0	39.7
2 - European Laboratories	B	2	36.9	7.7	0.9	2.3	26.0	47.7
2 - European Laboratories	D	25	36.4	0.6	1.5	4.1	33.3	39.5
2 - European Laboratories	N	5	36.3	1.2	1.0	2.7	33.5	39.0
3 - Foreign Laboratories	A	12	35.4	1.4	2.1	6.0	30.7	40.0
3 - Foreign Laboratories	B	6	34.4	1.3	1.2	3.6	31.2	37.6
3 - Foreign Laboratories	C	3	35.3	3.4	1.4	3.9	29.4	41.2
3 - Foreign Laboratories	N	3	36.7	1.4	0.6	1.6	34.2	39.2

Compression 28 days (A.M.U)
Mean 43.1 +/- 0.4



Compression 28 days - By Labo Group & Method

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A.M.U	17	43.5	0.9	1.7	4.0	39.8	47.2
2 - European Laboratories	A.M.U	124	43.3	0.4	2.1	4.8	39.2	47.4
3 - Foreign Laboratories	A.M.U	25	41.8	1.0	2.4	5.8	36.7	46.8

Labo Group	Method	Number of Results	Mean	ε (5%)	Repro Std	CV (%)	Lm95%	LM95%
1 - European Pilots	A	13	43.2	1.1	1.9	4.4	39.1	47.3
1 - European Pilots	D	3	44.5	2.0	0.8	1.8	41.1	47.9
2 - European Laboratories	A	92	43.2	0.5	2.2	5.1	38.8	47.6
2 - European Laboratories	B	2	42.6	0.3	0.0	0.1	42.3	43.0
2 - European Laboratories	D	24	43.8	0.7	1.7	3.9	40.3	47.3
2 - European Laboratories	N	5	42.9	1.9	1.5	3.6	38.6	47.2
3 - Foreign Laboratories	A	12	41.6	1.7	2.6	6.3	35.8	47.3
3 - Foreign Laboratories	B	6	40.3	1.4	1.4	3.4	36.8	43.8
3 - Foreign Laboratories	C	3	41.5	5.4	2.2	5.2	32.2	50.8
3 - Foreign Laboratories	N	3	44.4	2.0	0.8	1.8	40.9	47.8