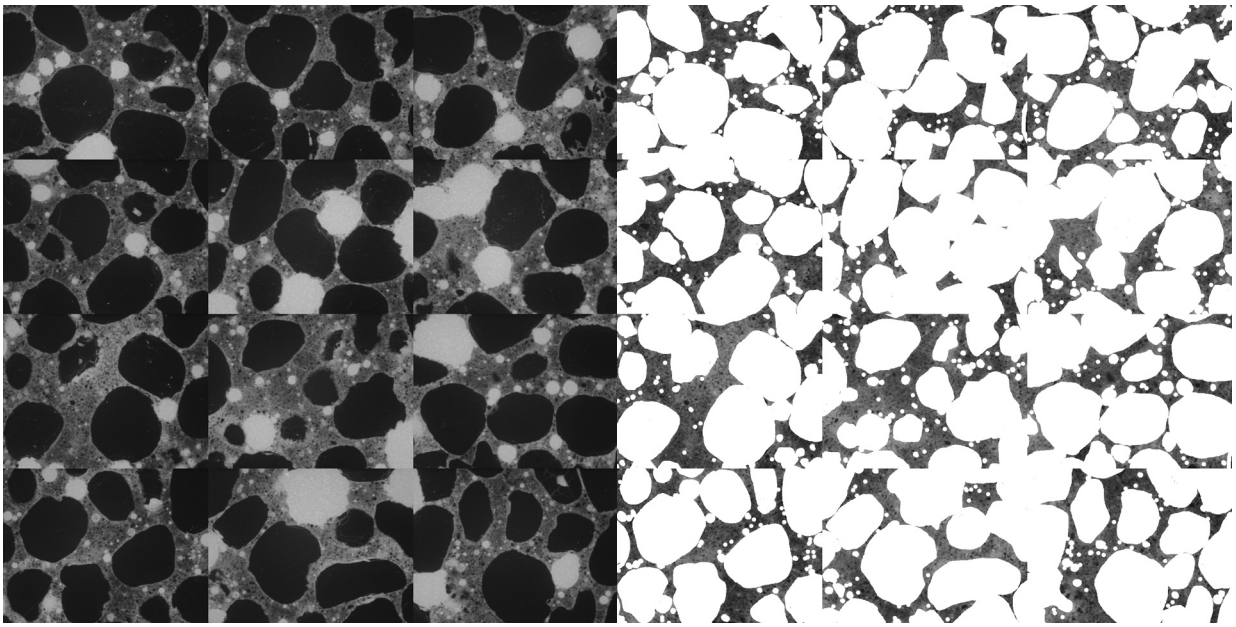

Figure 45: Mosaic of twelve images collected from 0.40 *w/cm* mortar standard (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 14: Average fluorescence values measured in grey scale level from cement paste for each image collected from 0.40 *w/cm* mortar standard, and correlated equivalent *w/cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Eq. *w/cm* = 0.00437x + 0.0329, R^2 = 0.884			
77	77	86	78	0.37	0.37	0.41	0.38
93	99	86	93	0.44	0.46	0.41	0.44
87	79	94	80	0.41	0.38	0.44	0.38
				Average	0.41	Std. dev.	0.03

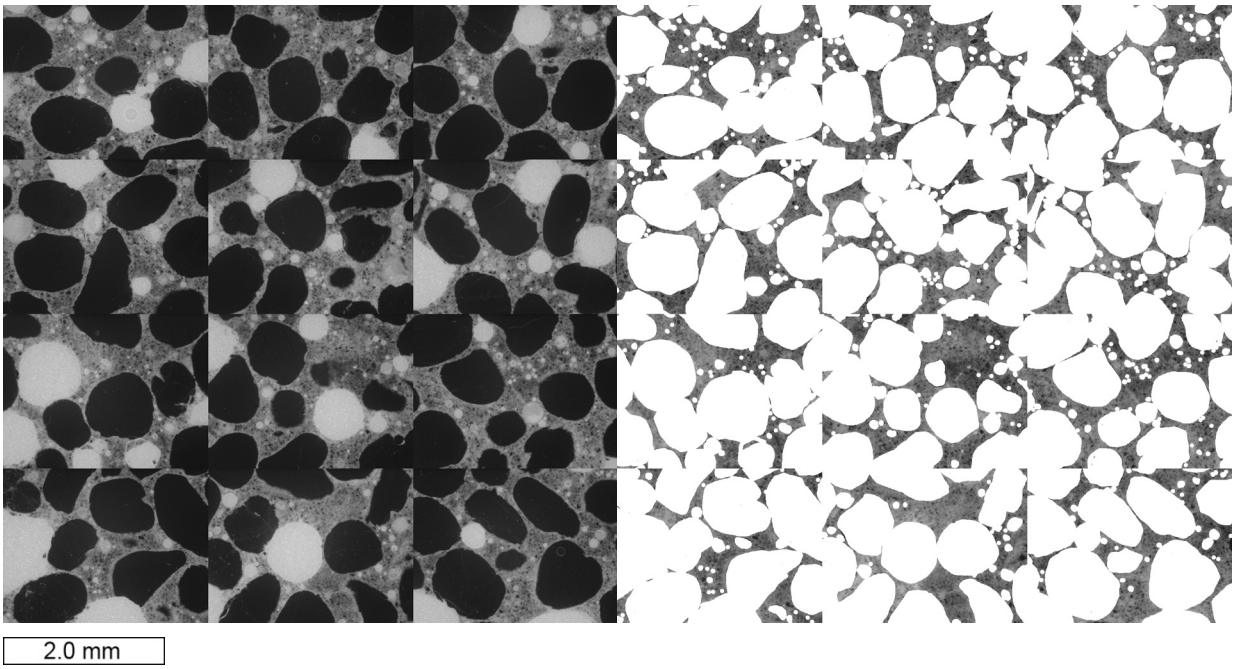

Figure 46: Mosaic of twelve images collected from 0.50 *w*/*cm* mortar standard (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 15: Average fluorescence values measured in grey scale level from cement paste for each image collected from 0.50 *w*/*cm* mortar standard, and correlated equivalent *w*/*cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Eq. *w*/*cm* = 0.00437x + 0.0329, R^2 = 0.884			
108	103	106	106	0.50	0.48	0.49	0.49
113	114	114	103	0.52	0.53	0.53	0.48
106	110	118	106	0.50	0.51	0.55	0.50
				Average	0.51	Std. dev.	0.02

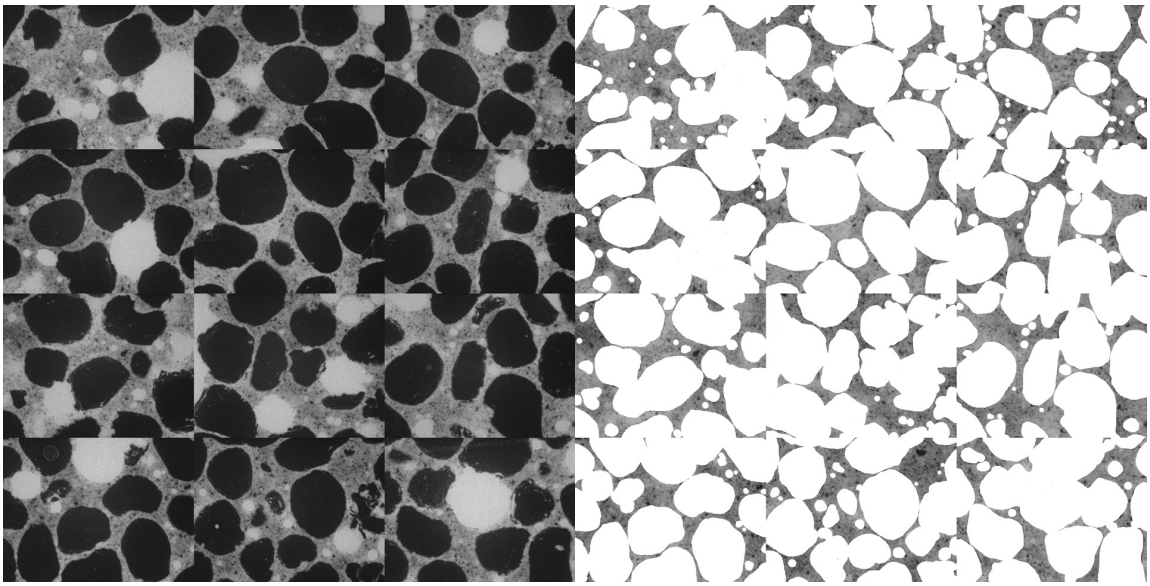

Figure 47: Mosaic of twelve images collected from 0.60 *w/cm* mortar standard (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 16: Average fluorescence values measured in grey scale level from cement paste for each image collected from 0.60 *w/cm* mortar standard, and correlated equivalent *w/cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Eq. *w/cm* = 0.00437x + 0.0329, R^2 = 0.884			
134	124	121	119	0.62	0.57	0.56	0.55
134	127	132	123	0.62	0.59	0.61	0.57
132	122	118	130	0.61	0.57	0.55	0.60
				Average	0.58	Std. dev.	0.03

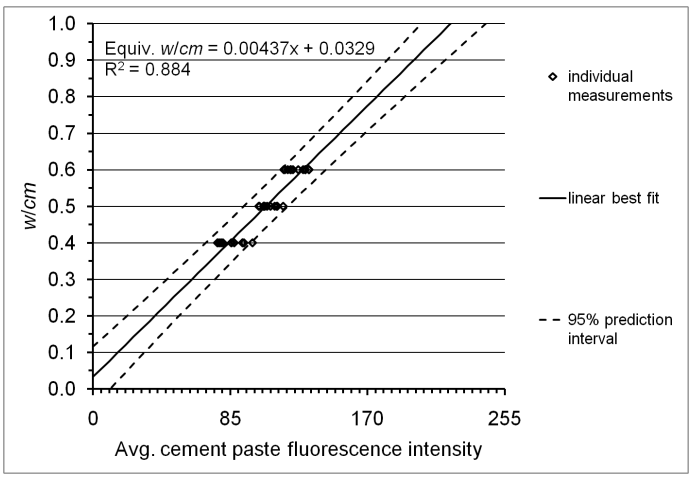

Figure 48: Equivalent *w/cm* calibration curve derived from 28 day moist-cured mortar standards made with air entrained portland cement and 20-30 Ottawa sand.

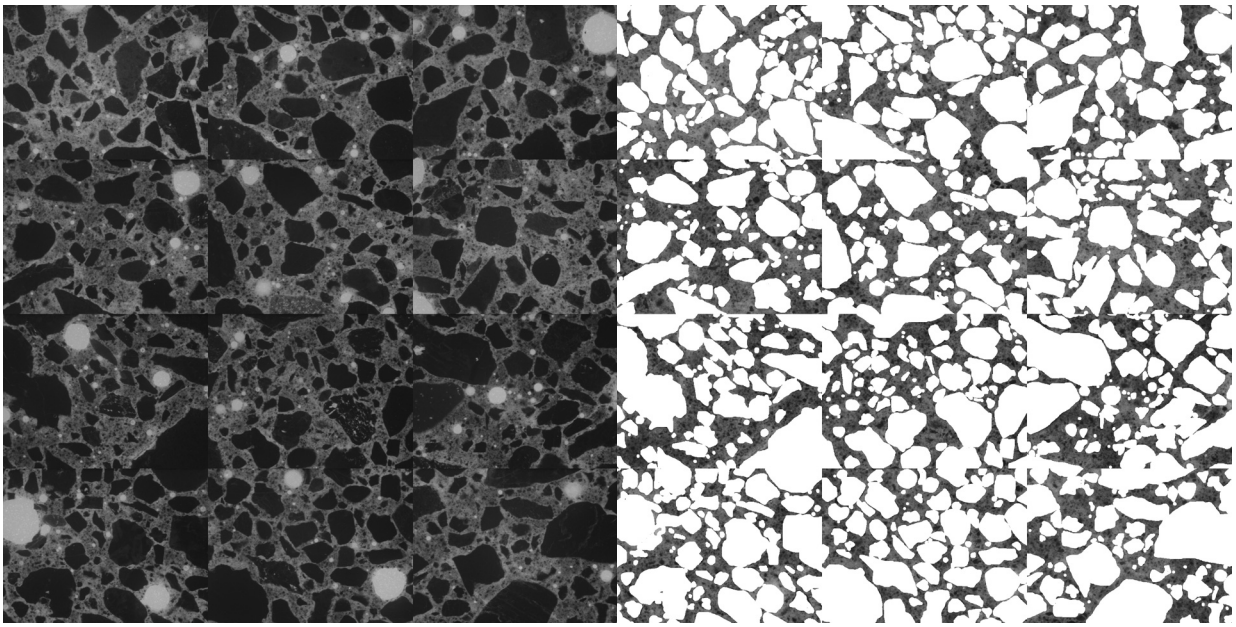

Figure 49: Mosaic of twelve images collected from LO-VR-PC-6SK-45WC mixture (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 17: Average fluorescence values measured in grey scale level from cement paste for each image collected from LO-VR-PC-6SK-45WC mixture, and correlated equivalent *w*/*cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Equiv. *w*/*cm* based on 28d mortar stds.			
105	92	89	82	0.49	0.44	0.42	0.39
87	95	77	79	0.42	0.45	0.37	0.38
74	86	84	84	0.36	0.41	0.40	0.40
				Average	0.41	Std. dev.	0.04

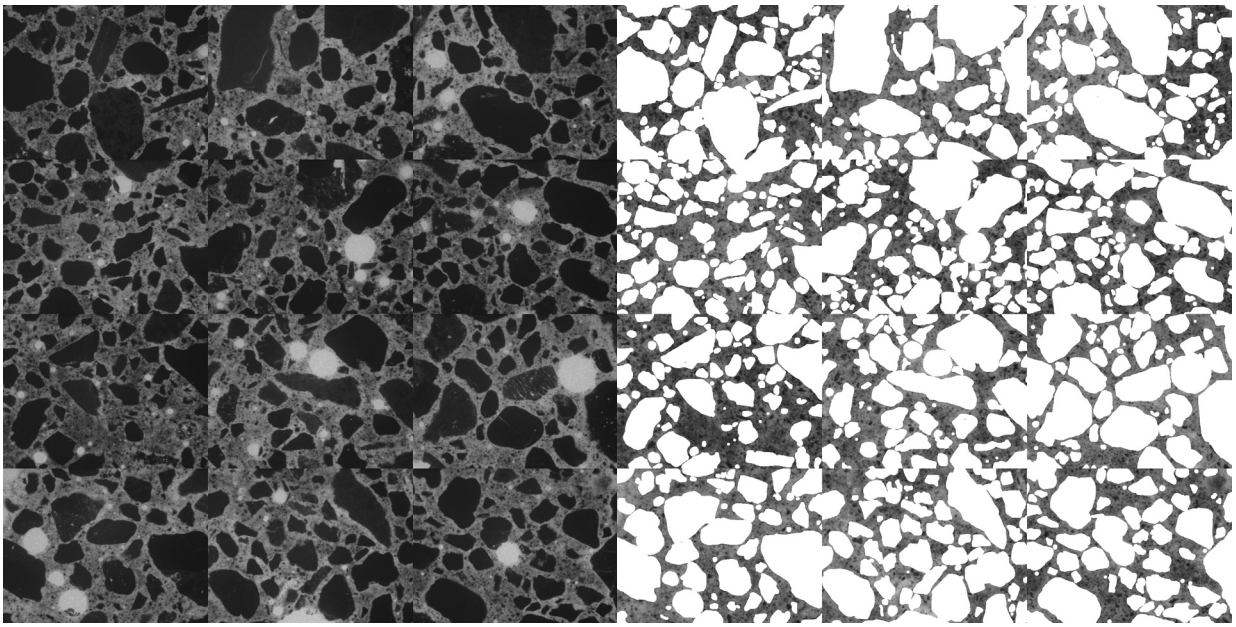

Figure 50: Mosaic of twelve images collected from LO-VR-PC-6SK-50WC mixture (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 18: Average fluorescence values measured in grey scale level from cement paste for each image collected from LO-VR-PC-6SK-50WC mixture, and correlated equivalent *w*/*cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Equiv. *w*/*cm* based on 28d mortar stds.			
83	105	96	98	0.40	0.49	0.46	0.46
86	88	79	102	0.41	0.42	0.38	0.48
108	105	106	96	0.51	0.49	0.50	0.46
				Average	0.46	Std. dev.	0.04

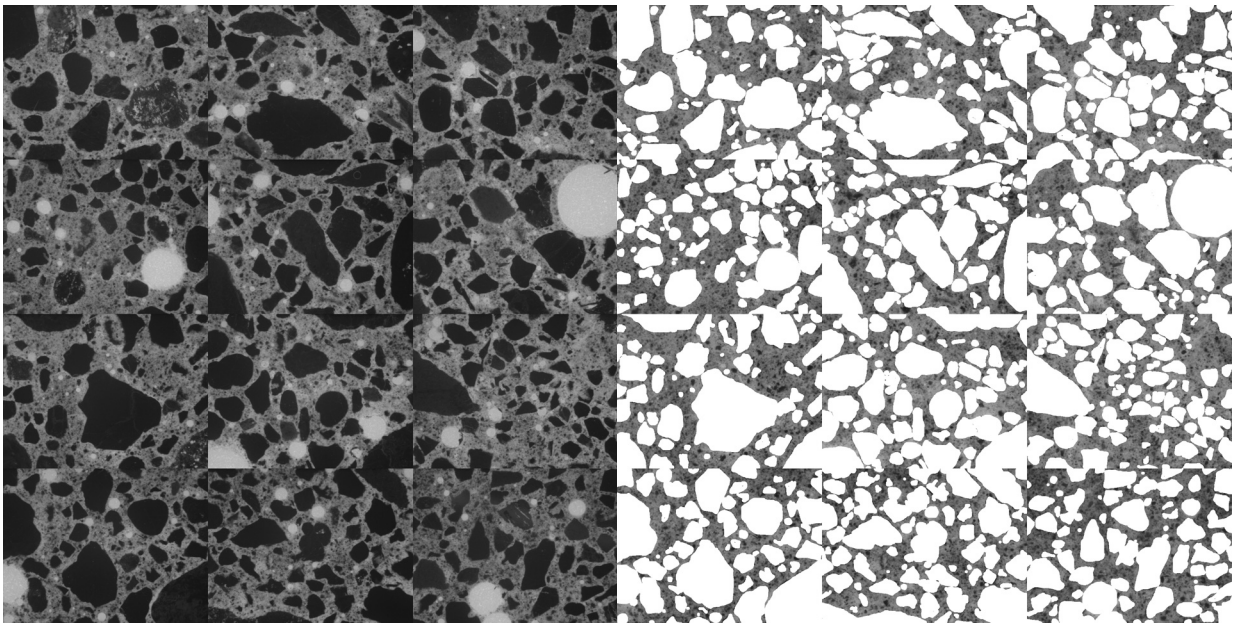

Figure 51: Mosaic of twelve images collected from LO-VR-PC-5.5SK-52WC mixture (left), and after masking air-voids and sand to isolate fluorescence from the cement paste (right).

Table 19: Average fluorescence values measured in grey scale level from cement paste for each image collected from LO-VR-PC-5.5SK-52WC mixture, and correlated equivalent *w*/*cm* values based on calibration curve.

Avg. intensity of individual images (grey scale level)				Equiv. *w*/*cm* based on 28d mortar stds.			
110	110	109	102	0.52	0.52	0.51	0.48
105	116	106	114	0.49	0.54	0.50	0.53
113	99	101	94	0.53	0.47	0.48	0.45
				Average	0.50	Std. dev.	0.03