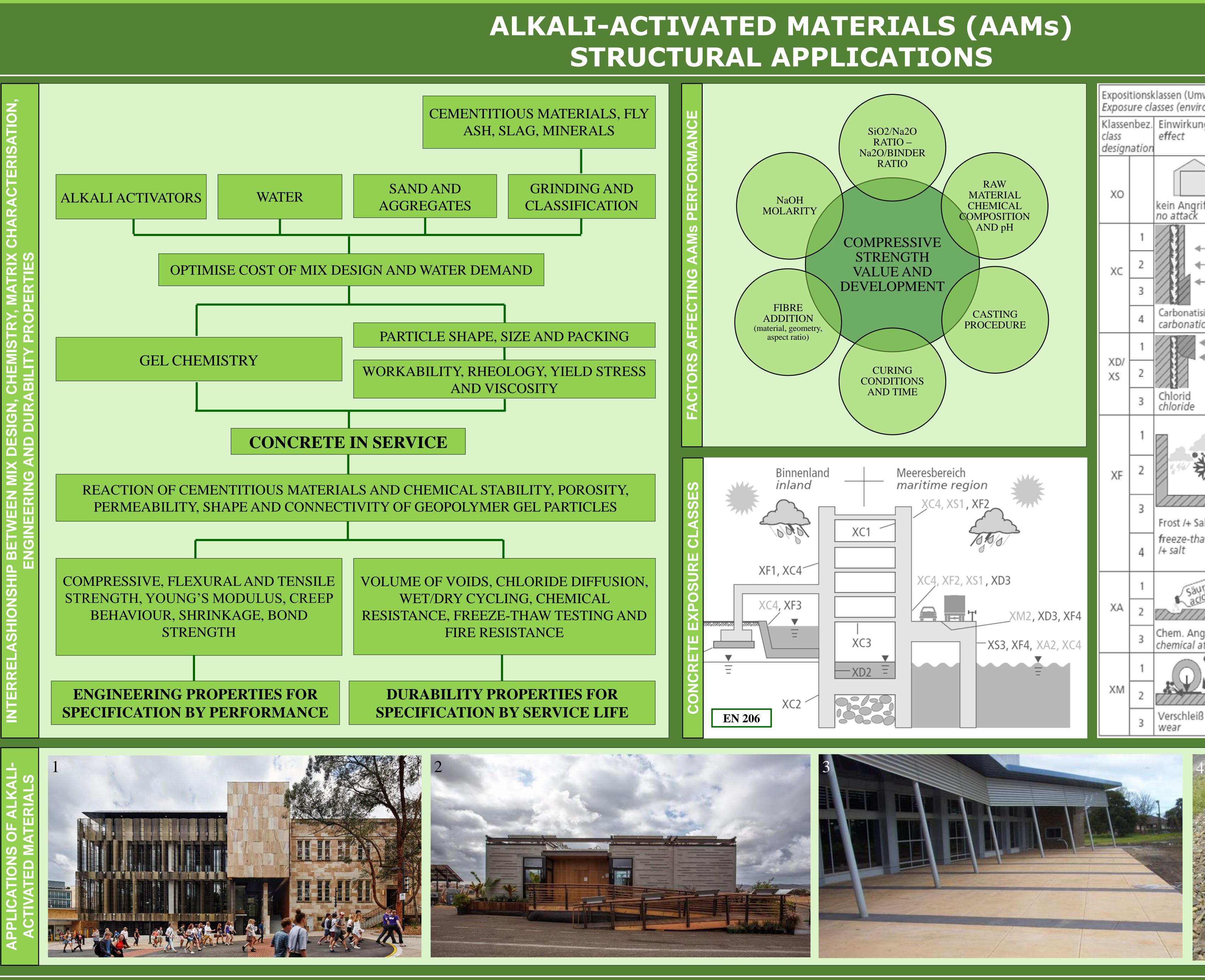


This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 813596

PhD Training Network on Durable, Reliable and Sustainable Structures with Alkali-Activated Materials



Images:

1 - Global Change Institute (GCI) – University of Queensland, Australia, 2013, EFC (Earth Friendly Concrete) – Wagners 2 - UrbanEden solar decathlon house – University of Charlotte, USA, 2013, Pre-cast fly ash-based Geopolymer concrete walls 3 - Thomastown Recreation and Aquatic Centre (TRAC) – Victoria, Australia, 2013, Ecrete pre-mixed concrete pavement – Zeobond 4 - Railways sleepers – Melbourne to Sydney mainline, NSW, Australia, Prestressed Geopolymer concrete – Rocla

References:

- van Deventer, J.S.J. et al., Technical and commercial progress in the adoption of geopolymer concrete, Minerals Engineering 29, 89-104, 2012 Antoni, Wijaya, Hardjito, Factors affecting the setting time of fly ash-based Geopolymer, Materials Science Forum, vol. 841, pp. 90-97, 2016 Antoni, Satria, Hardjito, Effect of variability of fly ash obtained from the same source on the characteristics of Geopolymer, MATEC Web of Conferences 97, 01026, 2017 Muhammad et al., Effect of heat curing temperatures on fly ash-based Geopolymer concrete, International Journal of Engineering and Technology, 8 (1.2), 15-19, 2019 - EN 206 – Concrete – Specification, performance, production and conformity

Stor2Na20 RATIO- RATIONER KATIONER		Expositionsklassen (Umwelteinwirkungen, "Angriffe") Betontechnische Maßnahmen ("Widerst Exposure classes (environmental effects, "attacks") Concrete technology measures ("resistar								
KATEO Kain Anforderung Keine Anforderung Keine	RATIO Na2O/BINDER RATIO RAW MATERIAL CHEMICAL COMPRESSIVE STRENGTH VALUE AND DEVELOPMENT CASTING PROCEDURE CURING CONDITIONS AND TIME CURING CONDITIONS AND TIME	class		effect and stress						
COMPRESSIVE SIRENGTII VALUE AND DEVELOPMENT CASTING PROCEDURE I		хо			kein Betonangriff	Anforderung <i>no</i>		Anforderung <i>no</i>		C8/10
COMPRESSIVE STRENGTH VALUE AND DEVELOPMENT 1 -Ho 0,75 240 C16/20 xC 2 3				kein Angriff	no concrete attack					C8/10
VALUE AND DEVELOPMENT XC 2 Constantly wet 0,75 240 Cl620 3 Casting 3 Corbonation mailing feucht moderately moist 0,65 260 C2025 4 Carbonation nast / tocken 0,60 280 C25/30 Meresbereich maritime region 1 Image feucht mading feucht noderately moist 0,55 300 C30/37 XC1 XF 2 Image feucht maritime region 0,50 32.0 C35/45 XC1 XF 2 Image feucht maritime region 0,50 32.0 C35/45 XC1 XF 2 Image feucht maritime region 0,50 32.0 C35/45 XC1 XF 2 Image feucht maritime region 0,50 32.0 C35/45 XC4 XF2, XS1, XD3 XF4 XF 2 Image feucht moderately moist 0,50 32.0 C35/45 XA 2 Image feucht maritime region 0,50 10 C25/30 Image feucht moderately corrosive 0,50		XC	1	H ₂ O H ₂ O CO ₂	1	0,75		240		C16/20
CASTING PROCEDURE CASTING PROCEDURE Image of the second carbonation and second carbonation Image of the second carbonation and second carbonation Image of the second carbonation and second carbonation Image of the second carbonation Image of the second carbonation Image of the second carbonation Image of the second carbonation VI 2 Image of the second carbonation			2			0,75		240		C16/20
CURRING CONDUTIONS ANDTIME 1 Image: Constant of the second s					moderately moist	0,65		260	L	C20/25
CLRING CONDITIONS AND TIME XD 1 Image: Constant y wet 0,50 300 C3037 XS 2 Image: Constant y wet 0,50 320 C3545 3 Chloride nass / trocken wet / dry 0,45 320 C3545 1 Image: Constant y wet 0,60 280 C25/30 1 Image: Constant y wet 0,50 320 C3545 1 Image: Constant y wet 0,60 280 C25/30 1 Image: Constant y wet 0,50 320 C35/45 1 Image: Constant y wet			4		wet / dry	0,60		280		C25/30
CURING CONDITIONS AND TIME XS 2 Ho Salidig lists constantly wet all choride 0,50 320 C35/45 XS 2 I 3 Chorid choride 0,50 320 C35/45 Meeresbereich maritime region XF 2 I malige Wassers. o. T. moderate water saturation (0.T) 0,60 280 C25/30 XC1 XF 2 I I malige Wassers. o. T. moderate water saturation (0.T) 0,50 320 C35/45 XC1 XF 2 I <			1	H:O		0,55		300		C30/37
3 Chloride Italian Structure 0.45 320 C35/45 Meeresbereich maritime region XC4, XS1, XF2 XC1 Image: Structure of the			2			0,50		320		C35/45
Meeresbereich maritime region XF 1 maderate water saturation (0.T.) 0,60 280 C25/30 XC1 XC4, XS1, XF2 male water saturation (m.T.) 0,55 + LP 300 C25/30 XC1 XC4, XS1, XF2 male water saturation (m.T.) 0,55 + LP 300 C25/30 XC1 XC4, XS1, XF2 Male water saturation (m.T.) 0,50 320 C35/45 XC1 Male water saturation (m.T.) 0,50 320 C35/45 XC4, XS2, XS1, XD3 Frest /+ Salz freeze-thaw /+ salt hohe Wassers. m. T. high water saturation (m.T.) 0,50 + LP 320 C30/37 XC4 2 1 Saturation (m.T.) 0,50 280 C25/30 XC3 XC4, XF2, XS1, XD3 XF4 2 Schwach angreifend moderately corrosive 0,60 280 C25/30 XA 2 1 Saturation maling angreifend moderately corrosive 0,50 320 C35/45 XC3 XX4 2 1 Saturation maling angreifend storogly corrosive 0,45 320 C35/45 XM 2 1			3			0,45		320		C35/45
maritime region XC4, XS1, XF2 Saturation (m.T.) 0,50 320 C35/45 XC1 XC4, XS1, XF2 Frost /+ Salz hohe Wassers. o. T. 0,50 320 C35/45 XC1 XC4, XS1, XF2 Image: Saturation (m.T.) 0,50 320 C35/45 XC1 XC4, XS1, XD3 Image: Saturation (m.T.) 0,50 Image: Saturation (n.T.) 0,50 320 C30/37 XC4, XF2, XS1, XD3 XC4, XF2, XS1, XD3 Image: Saturation (m.T.) 0,50 + LP 320 C30/37 XC3 XC4, XF2, XS1, XD3, XF4 Image: Saturation (m.T.) 0,50 + LP 320 C30/37 XC3 XC3 XF4, XA2, XC4 Image: Saturation (m.T.) 0,60 280 C25/30 XC3 XC3 XF4, XA2, XC4 Image: Saturation (m.T.) 0,50 320 C35/45 XC3 XC4, XF2, XS1, XD3, XF4 Image: Saturation (m.T.) 0,50 320 C35/45 XC3 XC4 Image: Saturation (m.T.) 0,50 320 C35/45 XC3 XF4, XA2, XC4 Image: Saturation (m.T.) 0,50 320 C35/45		XF	1		moderate water	0,60		280		C25/30
XC4, XS1, XF2 XF2 Image: Construction of the second s			2				+ LP	300		C25/30
XC1 XC1 Image: constraint of the second			3	Frost /+ Salz freeze-thaw		_	+ LP		-	
Image: Solution of the second seco										
Image: Starter Verschleiß 0,45 320 C35/45 XC3 Image: Starter Verschleiß 0,45 320 C35/45 XM Image: Starter Verschleiß 0,45 320 C35/45 XM Image: Starter Verschleiß 0,45 320 C35/45			4		high water saturation	0,50	+ LP	320		C30/37
XC3 XM2, XD3, XF4 XM2, XD3, XF4, XA2, XC4 XM2, XD3, XF4, XA2, XC4 <td>XC4, XF2, XS1, XD3</td> <td rowspan="3">ХА</td> <td rowspan="2">1</td> <td rowspan="2">saure acid</td> <td>schwach angreifend weakly corrosive</td> <td>0,60</td> <td></td> <td>280</td> <td></td> <td>C25/30</td>	XC4, XF2, XS1, XD3	ХА	1	saure acid	schwach angreifend weakly corrosive	0,60		280		C25/30
XC3 -XS3, XF4, XA2, XC4 3 chemical attack strongly corrosive 0,45 320 C35/45 -XD2 = -XS3, XF4, XA2, XC4 1 Mailing mäßiger Verschleiß 0,55 300 C30/37 -XD2 = -XM 2 -XM 2 Verschleiß 0,45 320 C35/45 Verschleiß 2 -XM 2 -XM Sehr starker Verschleiß 0,45 320 C35/45	XC3 -XD2 =					0,50		320		C35/45
XD2 = I <td>3</td> <td></td> <td></td> <td>0,45</td> <td></td> <td>320</td> <td></td> <td>C35/45</td>			3			0,45		320		C35/45
2 ////////////////////////////////////		ХМ	1			0,55		300		C30/37
Verschleiß sehr starker Verschleiß 0.45 320 C35/45						0,45		320		C35/45
			3			0,45		320		C35/45

