



TriDurLE

**National Center for Transportation
Infrastructure Durability & Life-Extension**

UTC Project Information – National UTC TriDurLE	
Project Title	
University	
Principal Investigator	
PI Contact Information	
Funding Source(s) and Amount Provided (by each agency or organization)	
Total Project Cost	
Agency ID or Contract Number	
Start and End Dates	
Brief Description of Research Project	
Describe Implementation of Research Outcomes (or why not implemented)	
Impacts/Benefits of Implementation (actual, not anticipated)	

Web links <ul style="list-style-type: none"> • Reports • Project website 	
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Place Any Photos Here

Table 1. Comparison between OPC, HPC, nHPC and UHPC

	OPCC	HPC	nHPC	UHPC
Mixture components	Cement, water, sand, aggregate, SP	Cement, SCM, water, sand, aggregate, SP, AEA	Cement, SCM, sand, water, fiber, SP	Cement, SCM, fine sand, water, fiber, SP
w/b	0.35-0.45	0.3-0.35	0.2-0.25	0.15-0.25
Service life (year)	15-30	20-50	50-75	50-100
Compressive strength (MPa)	25-60	40-100	70-100	120-200
Flexural strength (MPa)	2-3	3-5	5-10	5-15
Elastic modulus (MPa)	25000-35000	30000-45000	31500-45000	45000-65000
Cl ⁻ diffusion coefficient (m ² /s)	$< 1.1 \times 10^{-12}$	$< 6.0 \times 10^{-13}$	$< 1.0 \times 10^{-13}$	$< 0.2 \times 10^{-13}$
Salt scaling (kg/m ²)	1.22	0.05	0.01	0.001

Note: OPCC denotes ordinary Portland cement concrete, SP denotes superplasticizer, and AEA denotes air entrained agent.