Test Evaluation for Department of Defense performed by US Army Corps of Engineers

Polymer Concrete Material Evaluation Report

Air Force Flight Line

Product Information	**Name of Product:**	A.R.T. DOD/DOT 30 MR	**Manufacturer:**	A.R.T. Concrete Solutions
	Material Description:	Hybrid Polymer Composite		
	Address:	7000 Speedway Blvd. North	**Telephone:**	1-800-644-0210
		Las Vegas, NV 89115	**Website:**	https://artconcretesolutions.com
Testing Agency	US Army Corps of Engineers		**Date Tested:**	May-19
	Engineer Research and Development Center		**Overall Result (Pass/Fail):**	Pass
	3909 Halls Ferry Rd., Vicksburg, MS 39180			

Testing Summary

Test Property	Test Method	Test Age	Criteria	Lab Test Result	Unit	Pass/Fail
Compressive Strength	ASTM C579	2 hr.	≥ 2500 psi @ 2 hr	7,070	psi	Pass
		3 hr.	≥ 3000 psi @ 3 hr	9,040	psi	Pass
		1 day	≥ 4000 psi @ 1 day	11,020	psi	Pass
		7 day	≥ 5000 psi @ 7 day	14,020	psi	Pass
		28 day	≥ 5000 psi @ 28 day	14,290	psi	Pass
Flexural Strength	ASTM C78	2 hr.	≥ 350 psi @ 2 hr	2,715	psi	Pass
		7 day	≥ 500 psi @ 7 day	3,120	psi	Pass
		28 day	≥ 600 psi @ 28 day	3,220	psi	Pass
Bond Strength	ASTM C882	1 day	≥ 1000 psi @ 1 day	1,200	psi	Pass
Repair Material to Repair Material		7 day	≥ 1250 psi @ 7 day	1,800	psi	Pass
Bond Strength		1 day	≥ 1000 psi @ 1 day	1,340	psi	Pass
Repair Material to Ordinary PCC		7 day	≥ 1250 psi @ 7 day	1,860	psi	Pass
Modulus of Elasticity	ASTM C469	2 hr	2 ≤ x ≤ 6 Mpsi @ 2 hr	2.78	Mpsi	Pass
		28 day	2 ≤ x ≤ 6 Mpsi @ 28 day	4.47	Mpsi	Pass
Time of Set	ASTM C403	Initial Set	Initial Set: ≥ 15 min	41	min	Pass
		Final Set	Final Set: 15 - 90 min	45	min	Pass
Thermal Compatibility	ASTM C884	Test to begin after 7 day cure	No Delamination	No Delamination	-	Pass
Chemical Resistance	ASTM C267	Test Method B- JP-8 Exposure	≤20% strength loss at 66° C @ 1 day	5	%	Pass
		Test Method B- Fuel B Exposure		3	%	Pass
		Test Method B- Oil-3 Exposure		2	%	Pass
		Test Method B- JP-8 Exposure	≤10% weight change at 66° C @ 1 day	2	%	Pass
		Test Method B- Fuel B Exposure		1	%	Pass
		Test Method B- Oil-3 Exposure		1	%	Pass
Dynamic Mechanical Analysis	ASTM D5023	Sinusoidal 3-point bending -50 to 200 °C	> 60 °C @ 7 day	Failure at 80°C	°C	Pass