

**Request for Research Funding for FY 2022-2023**

**SPR Subpart B Project: SMO-23-06**

<b>Requesting Office</b>	SMO	<b>Priority</b>	6 of 10
<b>Proposed Title</b>	Evaluation of Coating Materials using Accelerated Laboratory Weathering Test Protocol		
<b>Justification</b>	Conduct accelerated laboratory testing to predict weathering deterioration of coating materials for steel structures.		
<b>Impact</b>	The durability of coating material products exposed to severe weathering conditions is paramount. However, current outdoor weathering tests take five years to complete. Accelerated laboratory testing procedures could be performed to reduce testing time. Such time reduction could benefit design and construction due to the lower results turnaround time. The goal is to investigate if a product will meet Florida Department of Transportation (FDOT) standards for service life in less time.		
<b>Affected Offices</b>	Construction office (David Wagner); State Materials Office (Awilda Merced).		
<b>Existing Work</b>	FDOT Agreement N°. BE717: Accelerated Weathering of Traffic Control Materials by Laboratory Testing; Final Report: February 2020; Project Manager: Ms. Awilda Merced; Principal Investigator: Adel ElSafty, Ph.D., PE. (University of North Florida).		
<b>Keywords Used In Existing Work Search</b> (Cannot leave blank)	Coating; weathering; Irradiance; Temperature; Moisture; Chloride ion; Stee; Corrosion.		
<b>Related Contracts</b> (Give contract numbers)	NA		
<b>Funding Request</b>	\$150,000	<b>Anticipated Duration</b>	18 months
<b>Project Manager</b>	Rodrigo Antunes	<b>Contracting Method</b>	RFP to all registered vendors
<b>Equipment</b>	NA	NA	
<b>Urgency</b>	2	This project may provide FDOT with a more efficient weathering test protocol for steel coating materials.	
<b>Implementability</b>	2	If BE717 protocols are validated, FDOT will better convince the industry to include accelerated laboratory weathering testing as an approval requirement in coating material specifications.	

**Project Benefits**

This project will save testing time and may accelerate approvals.

<b>Project Benefits</b> (Select all that apply and explain)	<b>Quantifiable Benefits</b> (units, dollars, etc...if applicable)	<b>Methodology or Data Sources Used to Determine Quantifiable Benefits. If not applicable, please give justification of project benefits</b>
○ Materials Enhancement	NA	
○ Materials Savings	NA	
○ Time Savings	NA	
○ Lives Saved/Injuries Prevented	NA	
○ Other (Explain)	Testing time reduction	ASTM D5894 "Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)." The test conditions are modified to enhance the degradation rate in both Fog/Dry cycle and UV/Condensation cycle.

\*Comments should explain and support urgency, financial benefit, and implementability scores