

STAINLESS STEEL REBAR ASSOCIATION

Table 4

Guidance Framework

	Risk Class :			
	Degree of Exposure and Structure Importance			
	Low	Moderate	High	Very High
Service Conditions :				
Inland				
Marine				
Airborne salts				
Tidal and Splash Spray				
Submerged				
Exposure to Chlorides				
Low				
Moderate				
High				
Very High				
Risk of Carbonation				
Road Class				
Rural, Urban Road				
Rural, Urban Artery				
Rural, Urban Principal Artery				
Freeway, Major Roadway				
Critical Access Route (now/in the future)				
Yes/No				

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Design Service Life (no major repair)				
Less than 50 years				
50 to 75 years				
Greater than 75 years				
Supplementary Protection to be used, yes/no				
Deck sealant, membrane				
Excess cover				
Concrete design				
Probability of Major Repair without adequate Durability Measures				
Low				
Moderate				
High				
Very High				
Ease of Rehabilitation Access *				
Fair				
Moderate				
Difficult				
Very Difficult				
Impact of a Repair : Economics, Congestion				
Low				
Moderate				
High				
Very High				
	LOW	MODERATE	HIGH	VERY HIGH

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Risk Class Determination				
Zones of Stainless Use :				
Bridges, Overpasses				
Decks, Parapets, Medians				
Bridge beams, Piers, Towers				
Abutments, walls, approach spans				
Underside of decks in spray zones				
Exposed bolts, dowels				
Tunnels				
Tunnel walls, barriers, medians				
Portals				
Parking Structures				
Decks				
Columns				
Marine Structures				
Areas exposed to airborne and splash salt				
Recommendation : Steel Type	Not a candidate for Stainless	UNS S32304 UNS S32101 UNS S24100	UNS S31803 UNS S32304 UNS S32101	UNS S31803 UNS S31853 UNS S32304
Design and Economic Analysis :				
Allowance for Design Benefits with Stainless				
Cover Reduction				

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Increased crack width				
Life Cycle Cost Analysis				
Includes User Costs				
Includes Traffic Management Costs				
Avoided repair costs				
Recommendation : Fabrication Standard				
Stainless steel fabrication adheres to ANSI / CRSI IPG 4.1				

* Includes the case where there is a need for extensive traffic management during repairs and maintenance.