

Table 9.2.1 - Test Program for Evaluating Anchor Channels for Use in Uncracked and Cracked Concrete

Anchor Manufacturer	Channel bolt Designation	Criteria	Symbol	Units	Channel Bolt Size
Halfen USA	HSR 50/30-GV-s 8.8	AC 232			M16
Channel bolt may be used for channel sizes			-	-	HTA 52/34
Nominal tensile steel strength			$f_{ut,s}$	ksi	116
Nominal yield steel strength			f_{ys}	ksi	92.8
Effective cross-sectional area	Tension Loading		$A_{se,N}$	in ²	0.243
	Shear Loading		$A_{se,V}$	in ²	0.243
Nominal Tensile Strength			N_{ss}	kip	28.236
Strength Reduction Factor for steel Failure under tension loading			ϕ	-	0.65
Nominal shear strength			V_{ss}	kip	16.95
Strength reduction factor for steel failure under shear loading			ϕ	-	0.6
Nominal Bending Strength			M_{ss}^0	in-lb	2360
Strength reduction factor for bending of channel bolt			ϕ	-	0.6
Maximum torque moment (locking channel bolts)			T_{inst}	ft-lb	136
Minimum edge distance in respect to channel bolt			$C_{a,min}$	in	3.94
Required torque moment (locking channel bolts)			T_{inst}	ft-lb	136
Optional simulated seismic tests					
Adjustment factor for seismic shear loading			$\alpha_{V/seis,x}$	-	1
Nominal strength for the connection between channel bolt and channel lips for shear loading in longitudinal channel axis			$V_{sl,x}$	kip	2.26
Nominal Seismic strength for the connection between channel bolt and channel lips for shear loading in longitudinal channel axis			$V_{sl,x,seis}$	kip	2.26
Corresponding strength reduction factor			ϕ	-	0.45
Level of inspection			Continuous		