

PROJECT TITLE :

	Company		Client	
	Author		File Name	

midas Gen - RC-Mesh Flexural Wall Design [NSR-10] Gen 2025
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[[[*]]] MESHED WALL DESIGN MAXIMUM RESULT DATA : DOMAIN 3-[1]. (Horizontal)
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-. Information of Parameters.

Elem No. : 586
LCB No. : 4
Materials : $f_c = 27.5790$ MPa.
 $F_y = 413.6856$ MPa.
Thickness : $t = 300.0000$ mm.

-. Design Forces.

$Sig_x = -0.0775$ MPa.
 $Sig_y = 0.0144$ MPa.
 $Tau_{xy} = 0.0002$ MPa.

 $Sig_{max} = 0.0144$ MPa. (y-dir)
 $Sig_{min} = -0.0775$ MPa. (x-dir)
 $Tau_{xy} = 0.0002$ MPa.

-. Required Reinforcement and Concrete stress.

(Sig_{min} in Tension or $Sig_{max} * Sig_{min} \leq Tau_{xy}^2$ --> Rebar Required!)
 $ft_{max} = 0.0000$ MPa. (y-dir)
 $ft_{min} = Tau_{xy}^2 / Sig_{max} - Sig_{min} = 0.0775$ MPa. (x-dir)

 $f'tx = 0.0775$ MPa.
 $f'ty = 0.0000$ MPa.
 $Sig_c = Sig_{max} * [1 + (Tau_{xy} / Sig_{max})^2] = 0.0144$ MPa.

 $rhoy_{req} = 0.0015$
 $rhox_{req} = 0.0025$

-. Tensile Strength provided by Reinforcement.

$b = 1.0$ mm. (by Unit Length).
 $Asx_{Req} = 0.7500$ mm²/mm. (750.0000 mm²/m.)
 $Asy_{Req} = 0.4500$ mm²/mm. (450.0000 mm²/m.)
 $Asx_{use} = 0.8000$ mm²/mm. (799.9984 mm²/m.)
 $Asy_{use} = 0.5161$ mm²/mm. (516.1280 mm²/m.)
 $ftnx = Asx_{use} / (b * t) * f_y = 1.1032$ MPa.
 $ftny = Asy_{use} / (b * t) * f_y = 0.7117$ MPa.

-. Check the Ratio.

Rein. Bar_x : (Hor.)
Rein. Bar_y : (Ver.)
 $Rat_x = f'tx / ftnx = 0.070$
 $Rat_y = f'ty / ftnt = 0.000$
 $Rat_c = Sig_c / f_c = 5.214e-04$
 $Rat = Rat_x = 0.070 < 1.0$ ---> O.K !