

HP-35s Calculator Program –

UNREINFORCED MASONRY WALL DESIGN

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Line	Instruction	Process	User Instruction
U001	LBL U	Establishing the library	
U002	HEIGHT-INCHES		
U003	PSE		
U004	INPUT H	Input the height of the wall	
U005	INPUT R	input the radius of gyration of the masonry used	
U006	÷		
U007	99		
U008	x≤y?		
U009	GTO U025	If ratio of $h/r \leq 99$ takes to appropriate process at U025	
U010	RCL H	Processing for $h/r > 99$	
U011	140		
U012	÷		
U013	RCL R		
U014	÷		
U015	x^2		
U016	+/-		
U017	1		
U018	+		
U019	INPUT F	Input the f_m value	
U020	x		
U021	4		
U022	÷		
U023	STO X	Storing the F_a (allowable stress due to axial load) on X	
U024	GTO U036	Take process to visualizing value of F_a	
U025	RCL R	Processing for $h/r \leq 99$	
U026	RCL H		
U027	÷		
U028	70		
U029	x		
U030	x^2		
U031	INPUT F	Input the f_m value	
U032	x		
U033	4		
U034	÷		
U035	STO X	Storing the F_a (allowable stress due to axial load) on X	
U036	FA=		
U037	PSE		
U038	VIEW X	Viewing value of allowable stress F_a due to axial load	
U039	RCL F	Solving for P (with or without eccentricity)	
U040	x		
U041	An	Search for the A_n (nominal area value of masonry unit)	Press R/S to continue (No PSE used because time may be needed for the search of value)
U042	INPUT A	Input the A_n value from tables	
U043	x		
U044	S	Search for the S (section modulus of the masonry unit)	Press R/S to continue (No PSE used because time may be needed for the search of value)
U045	INPUT S	Input the S value from tables	
U046	x		
U047	RCL S		
U048	RCL F		
U049	x		
U050	3		
U051	÷		
U052	ECC INCHES		
U053	INPUT E	Input the eccentricity of the load	
U054	RCL A		
U055	x		
U056	RCL X		
U057	x		
U058	+		
U059	3		
U060	x		
U061	1/x		

U062	x		
U063	STO P	Storing value of P	
U064	RCL F	Solving for Euler's formula (Pe)	
U065	900		
U066	x		
U067	π		
U068	x^2		
U069	x		
U070	MOM INERT		
U071	INPUT I	Input the I (moment of inertia) value	
U072	x		
U073	RCL H		
U074	x^2		
U075	\div		
U076	RCL E		
U077	RCL R		
U078	\div		
U079	0.577		
U080	x		
U081	+/-		
U082	1		
U083	+		
U084	3		
U085	y^x		
U086	x		
U087	4		
U088	\div	Dividing Euler's value by 4	
U089	$x \leq y?$	If $\frac{1}{4}$ Euler's value $\leq P$ it governs	
U090	STO P	Storing P or Pe (whichever governs)	
U091	P IN LBF \div FT	P in pounds per linear foot	
U092	PSE		
U093	VIEW P		
U094	STOP		



