

ASCE 7-05 Load Combination Computations

This spreadsheet will compute the load combination for up to seven load sources.

Each line in the combination table represents on loading combination.

Do NOT mix values from different lines when creating your beam loading diagrams.

Unit live loads are ≤ 100 psf? (Y/N): **Y**

Space is a Garage or Place of Public Assembly? (Y/N): **N**

Loads	Identifier	uni1	uni2	lateral	Source 4	Source 5	Source 6	Source 7
		Units	klf	klf	k	k		
Dead	D	1.15	8	0	0	0	0	0
Fluid Pressure	F	0	0	0	0	0	0	0
Lateral Earth Pressure	H	0	0	0	0	0	0	0
Live	L	1.85	0	0	0	0	0	0
Roof Live	Lr	0	4.8	0	0	0	0	0
Snow	S	0	20	0	0	0	0	0
Rain	R	0	0	0	0	0	0	0
Self Restraining	T	0	0	0	0	0	0	0
Wind	W	0	0	15	0	0	0	0
Earthquake	E	0	0	25	0	0	0	0

LRFD		max value	41.6	25	0	0	0	0
		min value	7.2	-25	0	0	0	0
LRFD-LC1		1.61	11.2	0	0	0	0	0
LRFD-LC2a		4.34	12	0	0	0	0	0
LRFD-LC2b		4.34	19.6	0	0	0	0	0
LRFD-LC2c		4.34	9.6	0	0	0	0	0
LRFD-LC3a		2.305	17.28	0	0	0	0	0
LRFD-LC3b		1.38	17.28	12	0	0	0	0
LRFD-LC3c		2.305	41.6	0	0	0	0	0
LRFD-LC3d		1.38	41.6	12	0	0	0	0
LRFD-LC3e		2.305	9.6	0	0	0	0	0
LRFD-LC3f		1.38	9.6	12	0	0	0	0
LRFD-LC4a		2.305	12	24	0	0	0	0
LRFD-LC4b		2.305	19.6	24	0	0	0	0
LRFD-LC4c		2.305	9.6	24	0	0	0	0
LRFD-LC5a		2.305	13.6	25	0	0	0	0
LRFD-LC5b		2.305	13.6	-25	0	0	0	0
LRFD-LC6a		1.035	7.2	24	0	0	0	0
LRFD-LC6b		1.035	7.2	-24	0	0	0	0
LRFD-LC7a		1.035	7.2	25	0	0	0	0
LRFD-LC7b		1.035	7.2	-25	0	0	0	0

ASD		max value	28	17.5	0	0	0	0
		min value	4.8	-17.5	0	0	0	0
ASD-LC1		1.15	8	0	0	0	0	0
ASD-LC2		3	8	0	0	0	0	0
ASD-LC3a		1.15	12.8	0	0	0	0	0
ASD-LC3b		1.15	28	0	0	0	0	0
ASD-LC3c		1.15	8	0	0	0	0	0
ASD-LC4a		2.5375	11.6	0	0	0	0	0
ASD-LC4b		2.5375	23	0	0	0	0	0
ASD-LC4c		2.5375	8	0	0	0	0	0
ASD-LC5a		1.15	8	15	0	0	0	0
ASD-LC5b		1.15	8	-15	0	0	0	0
ASD-LC5c		1.15	8	17.5	0	0	0	0
ASD-LC5d		1.15	8	-17.5	0	0	0	0
ASD-LC6a		2.5375	11.6	11.25	0	0	0	0
ASD-LC6b		2.5375	23	11.25	0	0	0	0
ASD-LC6c		2.5375	8	11.25	0	0	0	0
ASD-LC6d		2.5375	11.6	-11.25	0	0	0	0
ASD-LC6e		2.5375	23	-11.25	0	0	0	0
ASD-LC6f		2.5375	8	-11.25	0	0	0	0
ASD-LC6g		2.5375	11.6	13.125	0	0	0	0
ASD-LC6h		2.5375	23	13.125	0	0	0	0
ASD-LC6i		2.5375	8	13.125	0	0	0	0
ASD-LC6j		2.5375	11.6	-13.125	0	0	0	0
ASD-LC6k		2.5375	23	-13.125	0	0	0	0
ASD-LC6l		2.5375	8	-13.125	0	0	0	0
ASD-LC7a		0.69	4.8	15	0	0	0	0
ASD-LC7b		0.69	4.8	-15	0	0	0	0
ASD-LC8a		0.69	4.8	17.5	0	0	0	0
ASD-LC8b		0.69	4.8	-17.5	0	0	0	0

Load Combination Coefficients

LRFD		D	F	H	L	Lr	S	R	T	W	E
LRFD-LC1		1.4	1.4	0	0	0	0	0	0	0	0
LRFD-LC2a		1.2	1.2	1.6	1.6	0.5	0	0	1.2	0	0
LRFD-LC2b		1.2	1.2	1.6	1.6	0	0.5	0	1.2	0	0
LRFD-LC2c		1.2	1.2	1.6	1.6	0	0	0.5	1.2	0	0
LRFD-LC3a		1.2	0	0	0.5	1.6	0	0	0	0	0
LRFD-LC3b		1.2	0	0	0	1.6	0	0	0	0.8	0
LRFD-LC3c		1.2	0	0	0.5	0	1.6	0	0	0	0
LRFD-LC3d		1.2	0	0	0	0	1.6	0	0	0.8	0
LRFD-LC3e		1.2	0	0	0.5	0	0	1.6	0	0	0
LRFD-LC3f		1.2	0	0	0	0	0	1.6	0	0.8	0
LRFD-LC4a		1.2	0	0	0.5	0.5	0	0	0	1.6	0
LRFD-LC4b		1.2	0	0	0.5	0	0.5	0	0	1.6	0
LRFD-LC4c		1.2	0	0	0.5	0	0	0.5	0	1.6	0
LRFD-LC5a		1.2	0	0	0.5	0	0.2	0	0	0	1
LRFD-LC5b		1.2	0	0	0.5	0	0.2	0	0	0	-1
LRFD-LC6a		0.9	0	1.6	0	0	0	0	0	1.6	0
LRFD-LC6b		0.9	0	1.6	0	0	0	0	0	-1.6	0
LRFD-LC7a		0.9	0	1.6	0	0	0	0	0	0	1
LRFD-LC7b		0.9	0	1.6	0	0	0	0	0	0	-1

ASD		D	F	H	L	Lr	S	R	T	W	E
ASD-LC1		1	1	0	0	0	0	0	0	0	0
ASD-LC2		1	1	1	1	0	0	0	1	0	0
ASD-LC3a		1	1	1	0	1	0	0	0	0	0
ASD-LC3b		1	1	1	0	0	1	0	0	0	0
ASD-LC3c		1	1	1	0	0	0	1	0	0	0
ASD-LC4a		1	1	1	0.75	0.75	0	0	0.75	0	0
ASD-LC4b		1	1	1	0.75	0	0.75	0	0.75	0	0
ASD-LC4c		1	1	1	0.75	0	0	0.75	0.75	0	0
ASD-LC5a		1	1	1	0	0	0	0	0	1	0
ASD-LC5b		1	1	1	0	0	0	0	0	0	-1
ASD-LC5c		1	1	1	0	0	0	0	0	0	0.7
ASD-LC5d		1	1	1	0	0	0	0	0	0	-0.7
ASD-LC6a		1	1	1	0.75	0.75	0	0	0	0.75	0
ASD-LC6b		1	1	1	0.75	0	0.75	0	0	0.75	0
ASD-LC6c		1	1	1	0.75	0	0	0.75	0	0.75	0
ASD-LC6d		1	1	1	0.75	0.75	0	0	0	0	-0.75
ASD-LC6e		1	1	1	0.75	0	0.75	0	0	0	-0.75
ASD-LC6f		1	1	1	0.75	0	0	0.75	0	0	-0.75
ASD-LC6g		1	1	1	0.75	0.75	0	0	0	0	0.525
ASD-LC6h		1	1	1	0.75	0	0.75	0	0	0	0.525
ASD-LC6i		1	1	1	0.75	0	0	0.75	0	0	0.525
ASD-LC6j		1	1	1	0.75	0.75	0	0	0	0	-0.525
ASD-LC6k		1	1	1	0.75	0	0.75	0	0	0	-0.525
ASD-LC6l		1	1	1	0.75	0	0	0.75	0	0	-0.525
ASD-LC7a		0.6	0	1	0	0	0	0	0	1	0
ASD-LC7b		0.6	0	1	0	0	0	0	0	0	-1
ASD-LC8a		0.6	0	1	0	0	0	0	0	0	0.7
ASD-LC8b		0.6	0	1	0	0	0	0	0	0	-0.7