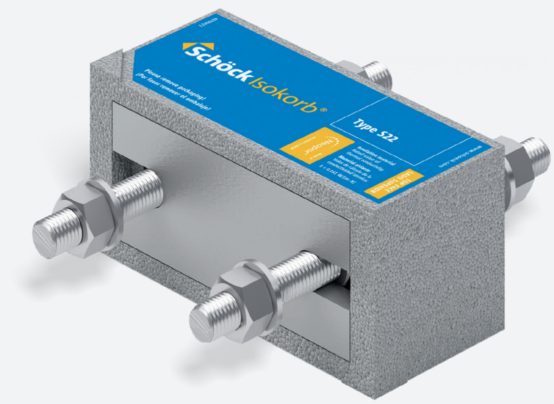


Load Table for Standard Solutions

Schöck Isokorb® Type S22

Schöck Isokorb® Type S22.

Steel-to-steel thermal break connections.

Schock Isokorb® Type S22 is an extremely efficient thermal break solution capable of carrying high bending moment and shear forces in steel-to-steel connections penetrating the building envelope, while eliminating creep concerns commonly associated with pad type connections. It is ideal for engineers and architects who want to improve the thermal performance of the building envelope, eliminate condensation concerns at structural penetrations, and have the peace of mind that comes from working with a company of more than 35 years of experience providing 10+ million structural thermal breaks all around the world.

This document contains load tables for typical steel-to-steel connections using Schock Isokorb® Type S22 structural thermal break modules. These load tables can be used to quickly determine the appropriate number of modules required in the connection. *For other applications, other beam sections, or other load types (torsion and/or horizontal shear), more detailed analyses should be considered, in collaboration with Schöck, if necessary.*

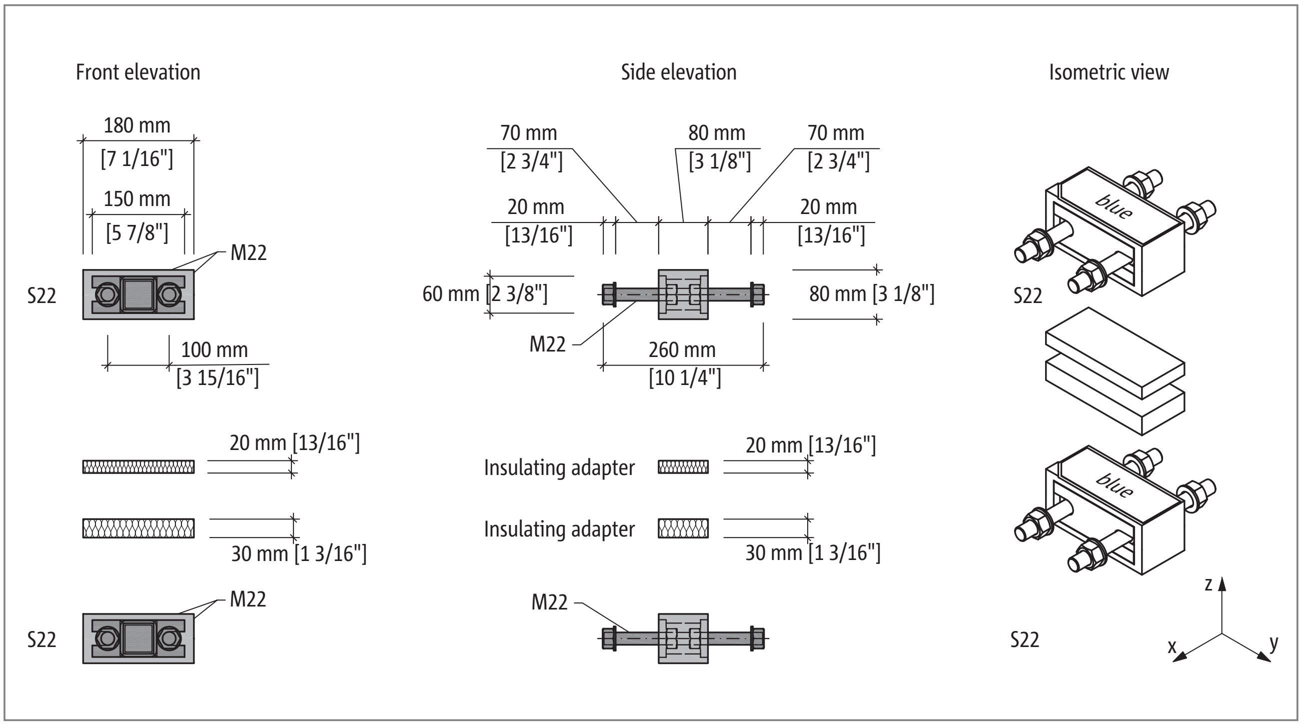
If you have questions, your Schöck Engineering Design team stands by, ready to help.

General comments on load tables:

- All values provided are maximum design ultimate force for the particular design case.
- Loads should be primarily static loads.
- Not for use in the primary load path of the structure (connections typically for cantilever projections)
- Expansion joints may be required, according to the manual.
- The strength values provided apply to the Isokorb connection only. The capacity of the beams entering the connection should be checked independently.
- If there is any doubt, please contact Schöck.

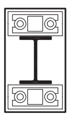
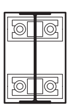
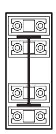
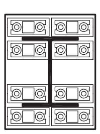
Two Schöck Isokorb® Type S22 combination

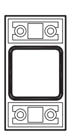
Detailed view and coordinate system



Standard solution Schöck Isokorb® Type S22

Imperial units

Beam size			W6×12		W8×10		W10×12		W12×14		W14×22		W16×26		W18×35		End-plate Thickness[4]
Case[1]			1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Beam flexural strength [kip-ft] F_y = 50 ksi			30.42		32.50		45.42		62.08		120.8		160.0		240.0		
2 modules outside flanges																	
	ϕM_n [kip-ft]		-37.0	-18.5	-44.8	-22.4	-53.3	-26.6	-61.8	-30.9	-69.4	-34.7	-77.9	-38.9	-86.4	-43.2	1 1/8
	ϕV_n [kips]		+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	
	Insulation spacers	30 mm	4		5		8		9		10		13		14		
		20 mm	1		2		–		1		2		–		1		
2 modules within flanges																	
	ϕM_n [kip-ft]		N/A[2]		-19.8	-9.9	-28.3	-14.1	-36.6	-18.3	-43.3	-21.6	-51.7	-25.8	-59.5	-29.7	3/4
	ϕV_n [kips]				+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	
	Insulation spacers	30 mm			–		3		4		6		7		8		
		20 mm			2		–		1		–		1		2		
4 modules around flanges																	
	ϕM_n [kip-ft]		N/A[2]		N/A[3]		N/A[3]		-83.0	-41.5	-96.3	-48.1	-112.1	-56.0	-127.5	-63.7	1
	ϕV_n [kips]								+29.7	+38.6	+28.9	+38.6	+28.2	+38.6	+27.7	+38.6	
	Insulation spacers	30 mm							3		6		5		8		
		20 mm							2		–		4		2		
8 modules around flanges																	
	ϕM_n [kip-ft]		N/A[2]		N/A[3]		N/A[3]		N/A[3]		-192.7	-96.3	-224.2	-112.1	-255.0	-127.5	1
	ϕV_n [kips]										+57.9	+77.3	+56.5	+77.3	+55.4	+77.3	
	Insulation spacers	30 mm									12		10		16		
		20 mm									–		8		4		

Beam size			HSS 4×4×1/2		HSS 6×6×1/2		HSS 8×8×1/2		HSS 10×10×1/2		HSS 12×12×1/2		End-plate Thickness[4]
Case[1]			1	2	1	2	1	2	1	2	1	2	
Beam flexural strength [kip-ft] F_y = 50 ksi			24.9		67.1		130.0		213.0		317.0		
2 modules outside flanges													
	ϕM_n [kip-ft]		-28.5	-14.2	-36.9	-18.4	-45.4	-22.7	-53.8	-26.9	-62.3	-31.1	1 1/8
	ϕV_n [kips]		+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	+11.2	+19.3	
	Insulation spacers	30 mm	3		4		5		8		5		
		20 mm	–		1		2		–		2		

[1] Case 1 represents values for highest moment capacity.
Case 2 represents values for half of highest moment capacity (shear value depends on moment value).

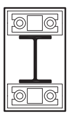
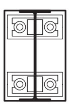
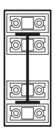
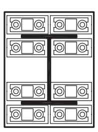
[2] This configuration is not feasible due to lack of space for Isokorb® modules within the beam depth.

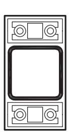
[3] This configuration is not necessary for structural steel of ≤50 ksi. The respective beam strength may be matched or exceeded by the simpler and more economical Isokorb® configuration shown on the table. Such configurations may be considered for higher strength beams, if necessary.

[4] The end-plate thickness is provided for estimation and constructibility evaluation purposes only. Steel of ≥50ksi has been assumed. The Structural Engineer of Record will need to evaluate these values for the specifics of the project. The use of stiffeners might result in a lower thickness value.

Standard solution Schöck Isokorb® Type S22

Metric units

Beam size			W150×18		W200×15		W250×18		W310×21		W360×33		W410×39		W460×52		End-plate Thickness[4]
Case[1]			1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Beam flexural strength [kNm] F_y = 345MPa			41.3		44.1		61.8		84.2		163		217		326		
2 modules outside flanges																	
	ϕM_n [kNm]		-50.2	-25.0	-60.8	-30.4	-72.3	-36.1	-83.8	-41.9	-94.2	-47.1	-105.7	-52.8	-117.2	-58.6	30mm
	ϕV_n [kN]		+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	
	Insulation spacers	30 mm	4		5		8		9		10		13		14		
		20 mm	1		2		–		1		2		–		1		
2 modules within flanges																	
	ϕM_n [kNm]		N/A[2]		-26.9	-13.5	-38.4	-19,2	-49.7	-24.8	-58.8	-29.4	-70.2	-35.1	-80.7	-40.3	20mm
	ϕV_n [kN]				+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	
	Insulation spacers	30 mm			–		3		4		6		7		8		
		20 mm			2		–		1		–		1		2		
4 modules around flanges																	
	ϕM_n [kNm]		N/A[2]		N/A[3]		N/A[3]		-112.6	-56.3	-130.6	-65.3	-152.0	-76.0	-172.8	-86.4	25mm
	ϕV_n [kN]								+132.4	+172.0	+128.8	+172.0	+125.7	+172.0	+123.3	+172.0	
	Insulation spacers	30 mm							3		6		5		8		
		20 mm							2		–		4		2		
8 modules around flanges																	
	ϕM_n [kNm]		N/A[2]		N/A[3]		N/A[3]		N/A[3]		-261.3	-130.6	-303.9	-152.0	-345.7	-172.8	25mm
	ϕV_n [kN]										+257.6	+344.0	+251.5	+344.0	+246.6	+344.0	
	Insulation spacers	30 mm									12		10		16		
		20 mm									–		8		4		

Beam size			HSS 101.6×101.6×12×7		HSS 152.4×152.4×12.7		HSS 203.2×203.2×12.7		HSS 254.0×254.0×12.7		HSS 304.8×304.8×12.7		End-plate Thickness[4]
Case[1]			1	2	1	2	1	2	1	2	1	2	
Beam flexural strength [kNm] F_y = 345MPa			33.7		91.1		176		289		431		
2 modules outside flanges													
	ϕM_n [kNm]		-38.6	-19.3	-50.1	-25.0	-61.5	-30.7	-73.0	-36.5	-84.4	-42.2	30mm
	ϕV_n [kN]		+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	+50.0	+86.0	
	Insulation spacers	30 mm	3		4		5		8		5		
		20 mm	–		1		2		–		2		

[1] Case 1 represents values for highest moment capacity.
Case 2 represents values for half of highest moment capacity (shear value depends on moment value).
[2] This configuration is not feasible due to lack of space for Isokorb® modules within the beam depth.
[3] This configuration is not necessary for structural steel of 345MPa. The respective beam strength may be matched or exceeded by the simpler and more economical Isokorb® configuration shown on the table. Such configurations may be considered for higher strength beams, if necessary.
[4] The end-plate thickness is provided for estimation and constructibility evaluation purposes only. Steel of 345MPa has been assumed. The Structural Engineer of Record will need to evaluate these values for the specifics of the project. The use of stiffeners might result in a lower thickness value.

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