



# MIQ-90

2119866

2119867

Hilti North America

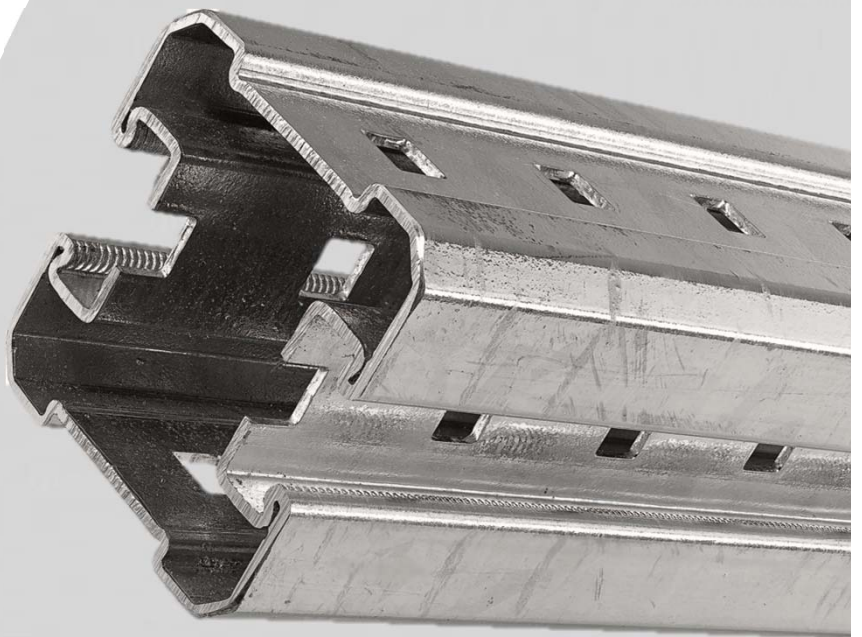
Installation Technical Manual

Technical Data

MIQ System

Version 1.0

06.2017



## Terms of common cooperation / Legal disclaimer

The product technical data published in these Technical Data Sheets are only valid for the mentioned codes or technical data generation methods and the defined application conditions (e.g. ambient temperature load capacity not valid in case of fire, data not valid in support structures when mixed with third party products, values only apply to static loading conditions). Technical data applies to the component only -- suitability and capacity of all other components must be checked separately by the responsible engineer (e.g., other assembly components, attachments, base materials, and building structures).

Suitability of structures combining different products for specific applications needs to be verified by conducting a system design and calculation, using for example Hilti PROFIS software. In addition, it is crucial to fully respect the Instructions for Use and to assure clean, unaltered and undamaged state of all products at any time in order to achieve optimum performance (e.g. avoid misuse, modification, overload, corrosion).

As products but also technical data generation methodologies evolve over time, technical data might change at any time without prior notice. We recommend to use the latest technical data sheets published by Hilti.

In any case the suitability of structures combining different products for specific applications need to be checked and cleared by an expert, particularly with regard to compliance with applicable norms, codes, and project specific requirements, prior to using them for any specific facility. This book only serves as an aid to interpret the capacity of the components listed, without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application. User must take all necessary and reasonable steps to prevent or limit damage. The suitability of structures combining different products for specific applications need to be confirmed with a professional designer and/or structural engineers to ensure compliance with User's specific jurisdiction and project requirements.

## MIQ System - Girders (Channels)

Designation	Item number
MIQ-90-3m	2119866
MIQ-90-6m	2119867

Technical data			MIQ-90
General Information	Variable	Units	Value
Gross Cross-Sectional Area*	$A_g$	[in <sup>2</sup> ]	1.69
Material Thickness	$t$	[in]	0.098
Channel weight	Wgt	[lb/ft]	5.77
Material (S275JR - EN10025) Information			
Material Yield Strength	$f_y$	[ksi]	39.9
Material Tensile Strength	$f_u$	[ksi]	62.4
E-module***	$E$	[ksi]	30458
General Load Limits			
Compression**	$P_{ao}$	[kip]	32.6
Tension**	$T_a$	[kip]	44.1
Net cross-section values Y-axis			
Net Section Modulus*	$S_y$	[in <sup>3</sup> ]	1.66
Net Moment of Inertia*	$I_y$	[in <sup>4</sup> ]	2.92
Net Radius of Gyration*	$r_y$	[in]	1.31
Shear Strength**	$V_{ay}$	[kip]	4.19
Flexural Strength (Moment)**	+/- $M_{yo}$	[kip in]	32.82
Net cross-section values Z-axis			
Net Section Modulus*	$S_z$	[in <sup>3</sup> ]	1.38
Net Moment of Inertia*	$I_z$	[in <sup>4</sup> ]	2.43
Net Radius of Gyration*	$r_z$	[in]	1.20
Shear Strength**	$V_{az}$	[kip]	4.06
Flexural Strength (Moment)**	+/- $M_{zo}$	[kip in]	26.87
Torsion			
Net Warping Constant*	$C_w$	[in <sup>6</sup> ]	1.63
Net St. Venant torsion constant*	$J$	[in <sup>4</sup> ]	0.00526
Notes:			
MIQ values are based on assuming it is fully braced			
Web Crippling checks were not considered			
*Net Refers to Equivalent Section with holes included			
**Calculations based on AISI S-100 2016 North American Specification (ASD)			
*** AISI Specifies E=29500 ksi, however initial designs used EN Standard value			





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The data contained in this literature was current as of the date of publication. Updates and changes may be made based on later testing. If verification is needed that the data is still current, please contact the Hilti Technical Support Specialists at 1-800-879-8000 (U.S.) or 1-800-363-4458 (Canada). All published load values contained in this literature represent the result of testing by Hilti or test organizations. Local base materials were used. Because of variations in materials, on-site testing is necessary to determinate performance at any specific site.