



Cold-Formed Steel "L" Header Field Guide

April 2000



Steel Framing Alliance™

Steel. The Better Builder.



Documents

Document Sharing Hub

Introduction

This publication was developed by Nader R. Elhadj, P.E., for the North American Steel Framing Alliance (NASFA). It is intended to provide span tables and construction details for L-shaped headers in residential and light commercial construction. In the production of this publication, due diligence has been exercised in consulting a wide range of pertinent authorities and experiences. Efforts have been made to present accurate, reliable and useful information. NASFA acknowledges the principal author of this publication, Nader Elhadj, and reviewers. Special appreciation is extended to Kevin Bielat of NASFA for his assistance and guidance.

The materials set forth herein are for general information only. They are not a substitute for competent professional assistance. Application of this information to a specific project or setting should be reviewed by a qualified individual. NASFA believes that the information contained in this publication substantially represents industry practice and related scientific and technical information, but the information is not intended to represent an official position of NASFA or to restrict or exclude any other construction or design technique. Anyone making use of the information set forth herein does so at his or her own risk and assumes any resulting liability.

Table of Contents

Introduction	i
Table of Contents	i
List of Figures	i
List of Tables	i
Overview	1
Scope	2
L-Header Identification	2
Span Tables	2
Construction Details	3
References	17

List of Figures

Figure 1	L-Shaped Header Configuration	1
Figure 2	Rough Opening	3
Figure 3	Framing of Rough Opening	4
Figure 4	Installation of a Double L-Shaped Header	4

List of Tables

Table 1	L-Header Dimension	5
Table 2	Applicability Limits	6
Table 3	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 24-Foot-Wide Building	7
Table 4	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 28-Foot-Wide Building	7

Table 5	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 30-Foot-Wide Building 8
Table 6	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 32-Foot-Wide Building 8
Table 7	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 34-Foot-Wide Building 9
Table 8	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 36-Foot-Wide Building 9
Table 9	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 38-Foot-Wide Building 10
Table 10	Double L-Header Span Table—Headers Supporting Roof and Ceiling Only 40-Foot-Wide Building 10
Table 11	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 24-Foot-Wide Building 11
Table 12	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 28-Foot-Wide Building 11
Table 13	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 30-Foot-Wide Building 12
Table 14	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 32-Foot-Wide Building 12
Table 15	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 34-Foot-Wide Building 13
Table 16	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 36-Foot-Wide Building 13
Table 17	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 38-Foot-Wide Building 14
Table 18	Double L-Header Span Table—Headers Supporting One Floor, Roof, and Ceiling 40-Foot-Wide Building 14
Table 19	Double L-Header Uplift Span Table—Headers Supporting Roof and Ceiling Only 24-Foot-Wide Building 15
Table 20	Double L-Header Uplift Span Table—Headers Supporting Roof and Ceiling Only 28-Foot-Wide Building 15
Table 21	Double L-Header Uplift Span Table—Headers Supporting Roof and Ceiling Only 32-Foot-Wide Building 16
Table 22	Double L-Header Uplift Span Table—Headers Supporting Roof and Ceiling Only 36-Foot-Wide Building 16
Table 23	Double L-Header Uplift Span Table—Headers Supporting Roof and Ceiling Only 40-Foot-Wide Building 17

Overview

This publication provides construction details and span tables for double L-headers with varied sizes and thickness. As the name suggests, the main component of an L-shaped header is a piece of cold-formed steel formed into a shape resembling the letter L. An L-header consists of a cold-formed steel angle with one short leg lapping over the top track of the wall and one leg extending down the side of the wall above window or door openings as shown in Figure 1. Each angle is fastened to the top track above an opening with minimum #8 screws spaced at 12-inches on center. The “L” angle is placed on both sides of the wall opening to form a double angle L-shaped header (double L-header).

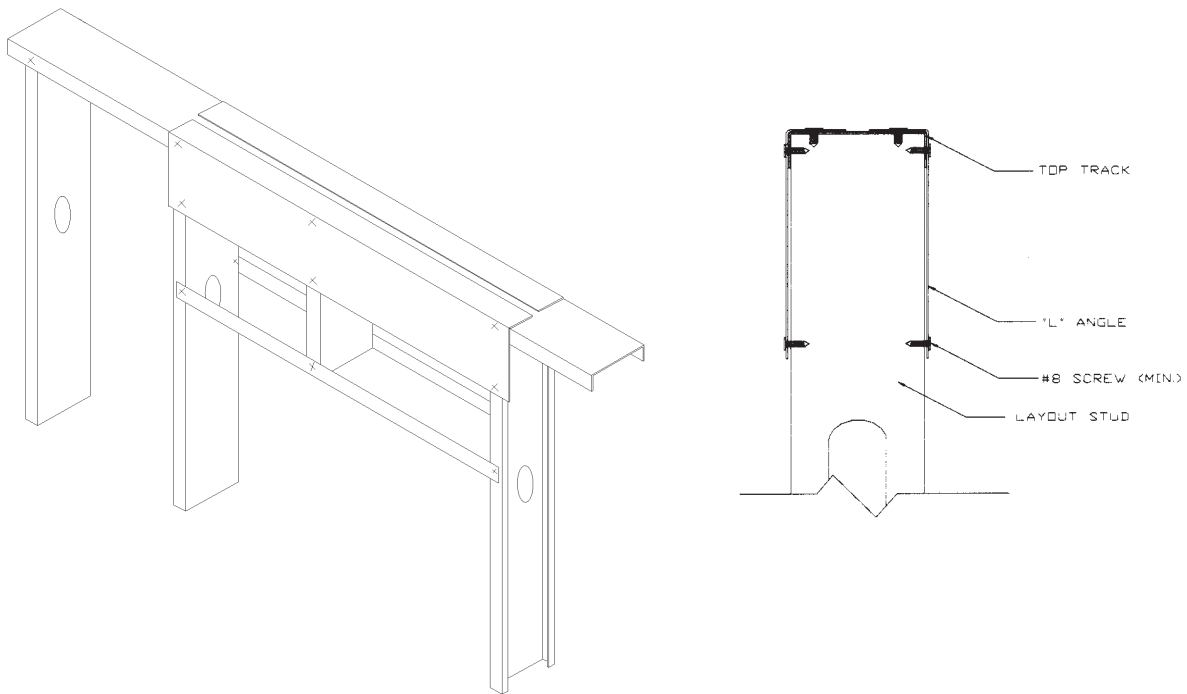


Figure 1
L-Shaped Header Configuration

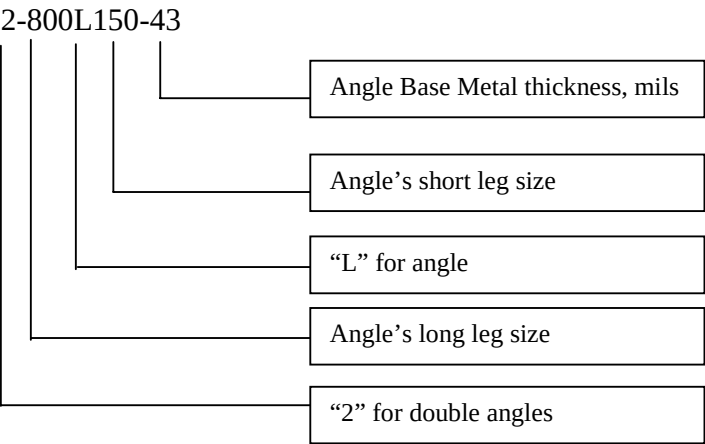
Scope

The tables in this document apply to the construction of double L-headers installed in buildings not more than two stories in height with each story not more than 10 feet high. Steel L-headers constructed in accordance with this document shall be limited by the applicability limits of the *Prescriptive Method for Residential Cold-Formed Steel Framing*, second edition, which are reproduced as Table 2 on page 6.

L-Header Identification

The size and thickness of the “L” angle, following the Steel Stud Manufacturers Association (SSMA) identification criteria, identify an L-header. All L-headers designed per this document are based on 33-ksi minimum yield strength. Table 2 provides the physical dimensions of L-headers considered in this document.

Example: A double L-header with 8-inch long leg angle dimension, 1 1/2-inch short leg angle dimension, and 18 gauge (43 mils) base metal thickness is designated as 2-800L150-43:



Span Tables

Tables 3 through 18 provide the maximum allowable span for the double L-headers, listed in Table 1, due to gravity loads. Tables 19 through 23 provide the maximum allowable span for the double L-headers due to uplift loads. The uplift span tables provided are applicable for the top floor of a two-story building or for a one-story building. Uplift loads were found negligible for the bottom floor of a two-story building and therefore, no uplift span tables were generated. Furthermore, L-headers constructed in buildings subjected to wind speeds less than 80 mph, exposure A/B are not subject to uplift loads. The span tables were developed based on the following assumptions:

- 1. Each L-angle is fastened to a minimum of 33 mil top track,
- 2. A cripple stud is located under each point load, and
- 3. The L-header fastening schedule is in accordance with Figure 3.

Construction Details

Figures 2 through 4 provide a step by step construction of a typical double L-header.

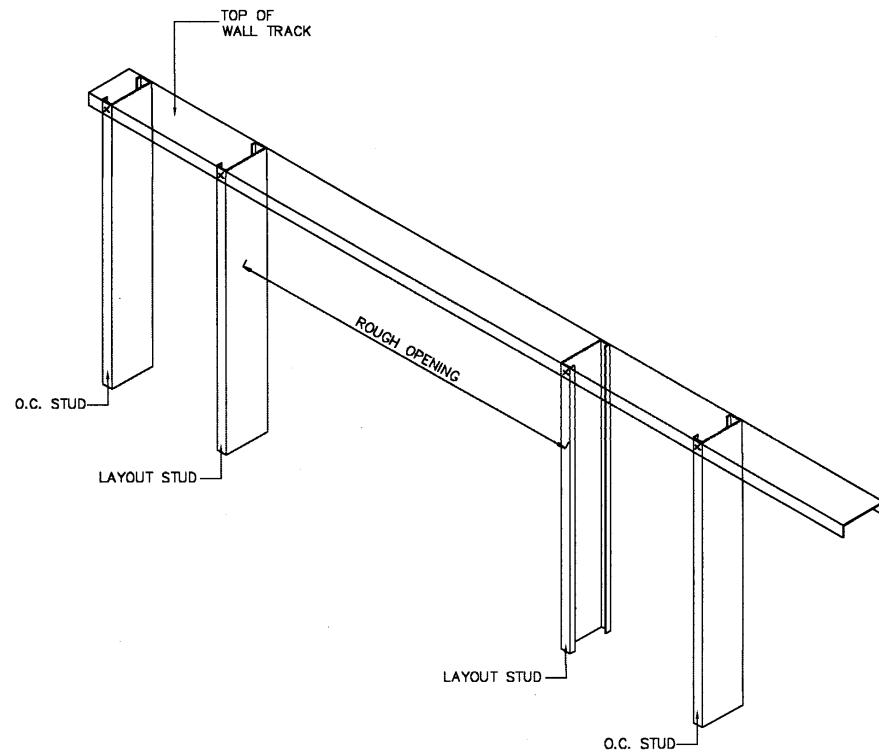


Figure 2
Rough Opening