

01 Jul 1945

## School of Civil Engineering, Cornell University Investigation of structural properties of light gage steel structural members

Cornell University School of Civil Engineering

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### Recommended Citation

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SCHOOL OF CIVIL ENGINEERING, CORNELL UNIVERSITY

INVESTIGATION OF STRUCTURAL PROPERTIES OF

LIGHT GAGE STEEL STRUCTURAL MEMBERS

INDEX OF INVESTIGATION TO DATE

July 1945

SCOPE OF THIS INDEX

This Index gives complete information on the various features investigated in this program to date, the number of tests carried out under each heading and the particular reports which were issued on the respective phases of the work. The Index covers the Beam Progress Reports No. 1 to 40, the Beam Summary Reports No. 1 to 3 plus Addenda, the Stud Progress Reports No. 1 to 22 and the Stud Summary Reports No. 1 and 2 plus Addenda. It does not cover (a) the investigation on strength and properties of steel roof decks, (b) such additional information as is contained in some of the direct correspondence by letter between the American Iron and Steel Institute and Cornell University, (c) communications, by mimeographed reports or letters solely concerned with formulating design specifications.

The following abbreviations are used:

BPR = Beam Progress Report

BSR = Beam Summary Report

SPR = Stud Progress Report

SSR = Stud Summary Report

- (1) Effective Design Width of Tension Flanges of wide, short beams. BPR 1 to 9, 11  
BSR 1,2  
51 tests and analysis
- (2) Lateral Strength of Slender Beams BPR 16, 18, 19, 20  
22, 23, 24  
BSR 2  
74 tests and analysis
- (3) Strength of Compression Flanges Stiffened along Both Longitudinal Edges. BPR 17, 18, 20, 21  
33, 34, 35,  
Comments re BPR 21  
BSR 2  
47 tests and analysis
- (4) Strength of Compression Flanges Stiffened along One Longitudinal Edge BPR 26, 28, 29, 30  
31, 32,  
SPR 19, 20, 21  
ESR 3  
SSR 2  
2nd Addendum to  
BSR 3, SSR 2  
132 tests and analysis
- (5) Performance of I-and Channel-Studs with Various End Attachments, without Lateral Restraint SPR 2, 3, 4  
40 tests
- (6) Performance of Straight I-and Channel-Studs with Various Collateral Supports ✓SPR 5 to 11  
48 tests and analysis
- (7) Performance of Prebent I-and Channel-Studs with Collateral Supports ✓SPR 14 to 17  
55 tests and analysis
- (8) Analytical Determination of Design Requirements for Collateral Wall Material SPR 1, 12, 13  
SSR 1  
Analysis

- (9) Crushing Strength of Thin Steel Webs  
144 tests and evaluation  
BPR 25, 38, 39
- (10) Performance of Unbraced C-Channel Beams  
17 tests  
BPR 36, 37
- (11) Required Spacing of Bracings of Channel Beams  
preliminary analysis  
BPR 40
- (12) Design Requirements for Welds joining two Channels to form an I-Beam  
Analysis  
BPR 14, 15  
BSR 2
- (13) Curling of Wide Flanges of I-Box-, and U-beams  
Analysis  
BPR 16, 24  
BSR 2
- (14) Discussion of Column Design Formulas and Curves  
Analysis  
SPR 18, 22 ✓
- (15) Incidental Test Observations on Buckling of Webs in Shear  
BPR 5, 12, 17
- (16) Incidental Test Observations on Strength of Compression Flanges composed of Two Sheets, Spot-welded  
15 tests  
BPR 3, 4, 5  
BSR 1
- (17) Properties of Celotex as Collateral Wall Material  
4 tests  
SPR 1
- (18) Bond Strength of Armstrong Linoleum Cement  
3 tests  
SPR 5

(19) Required Dimensions of Stiffening  
Lips for Compression Flanges.

BSR 2

Analysis