

MICHIGAN
STATE HIGHWAY DEPARTMENT
LANSING



CHARLES M. ZIEGLER
STATE HIGHWAY COMMISSIONER

INTEROFFICE COMMUNICATION

August 29, 1955

TO: W. W. McLaughlin
Testing & Research Engineer

SUBJECT: A study of the rigidity of the Union Steel Products Dowel Bar Joint Assembly submitted July 15, 1955: Report 237 which supplements Report No. 200, titled "A Study of the Rigidity of Various Dowel Bar Joint Assemblies." Research Project 3 F-1 (3).

At the request of Mr. C. B. Laird of the Construction Division, the Research Laboratory tested the Union Steel Products Dowel Bar Joint Assembly shown in Figures 29 and 30 attached. The test procedure for determining the rigidity of this assembly was identical to that performed on the specimens previously tested and the results discussed in Report No. 200.

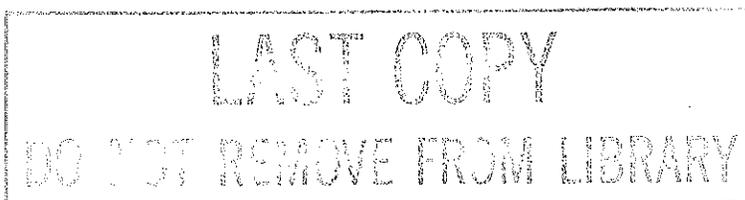
In Report No. 200, the horizontal and vertical stiffness of the other assemblies tested were compared to the Type 'C' assembly (Bethlehem Steel Company), since the performance of the Type 'C' assembly under job conditions was quite satisfactory and superior to that of assemblies used previously.

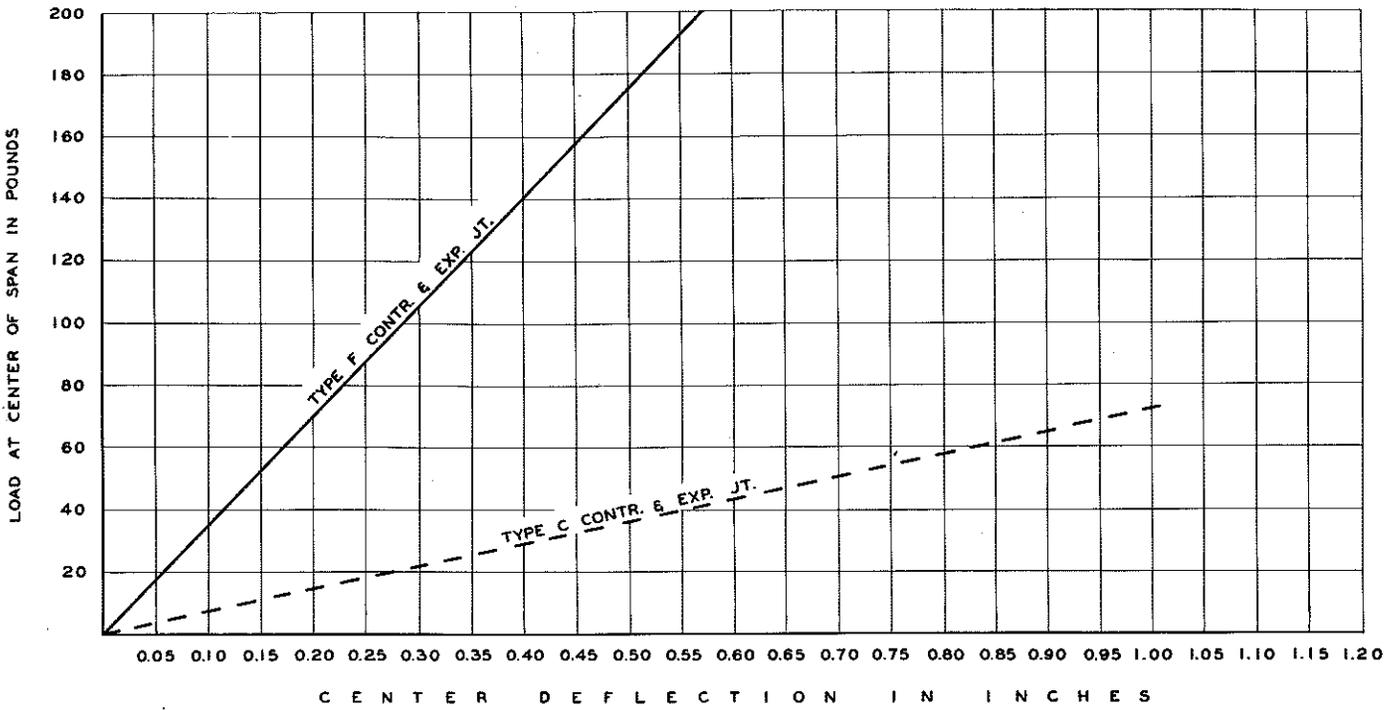
In this supplemental report the same procedure was used and the stiffness of the Union Steel Products assembly (Type F) is compared to that of the Bethlehem assembly (Type E). A comparison of the vertical and horizontal stiffness of these two assemblies is shown in Figures 19-A and 20-A respectively.

The Union Steel Products Dowel Bar Joint Assembly is approximately 5.8 times as stiff vertically, and 3.3 times as stiff horizontally as the Bethlehem assembly.

E. A. Finney
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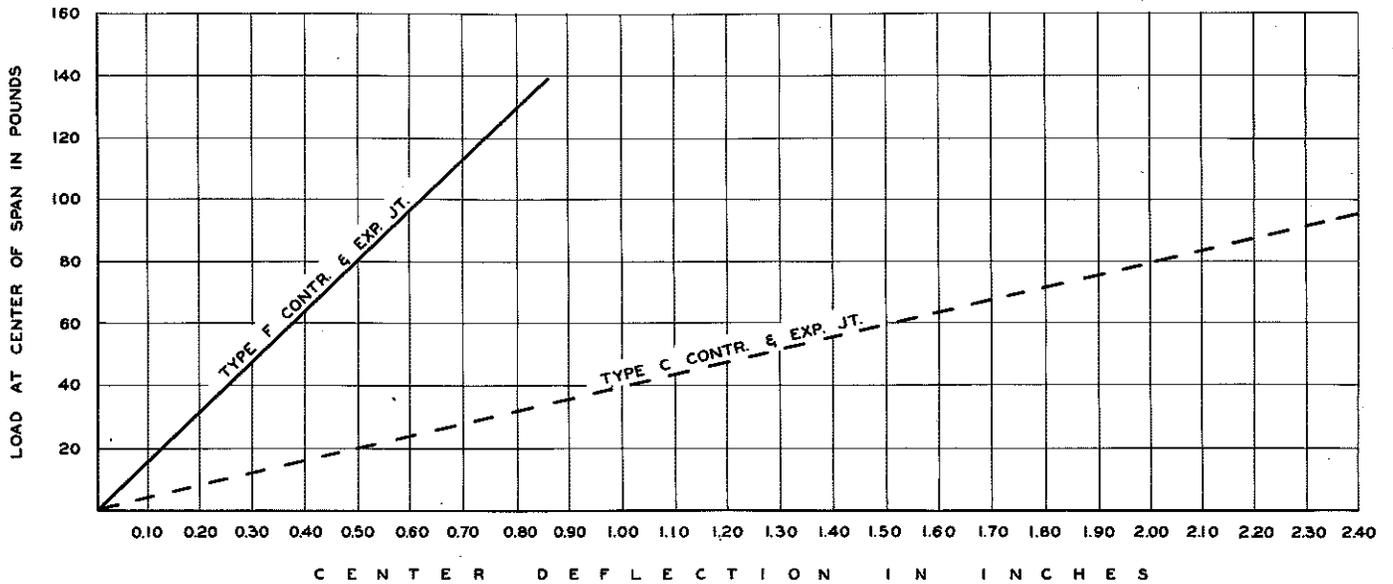
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CC: H. S. Rathfoot
C. A. Weber
H. Cash
P. E. Plambech
L. P. Scott





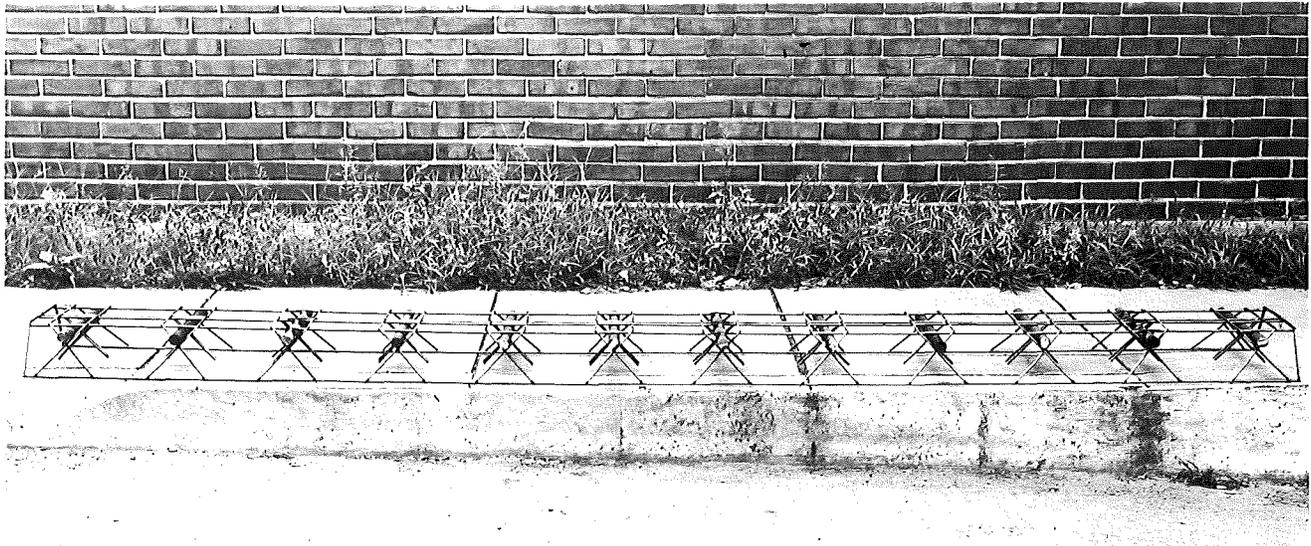
VERTICAL DEFLECTION OF DOWEL BAR ASSEMBLIES
TESTED WITH A CENTER VERTICAL LOAD ON AN EIGHT FOOT SPAN

FIGURE 19-A (SUPPLEMENT)



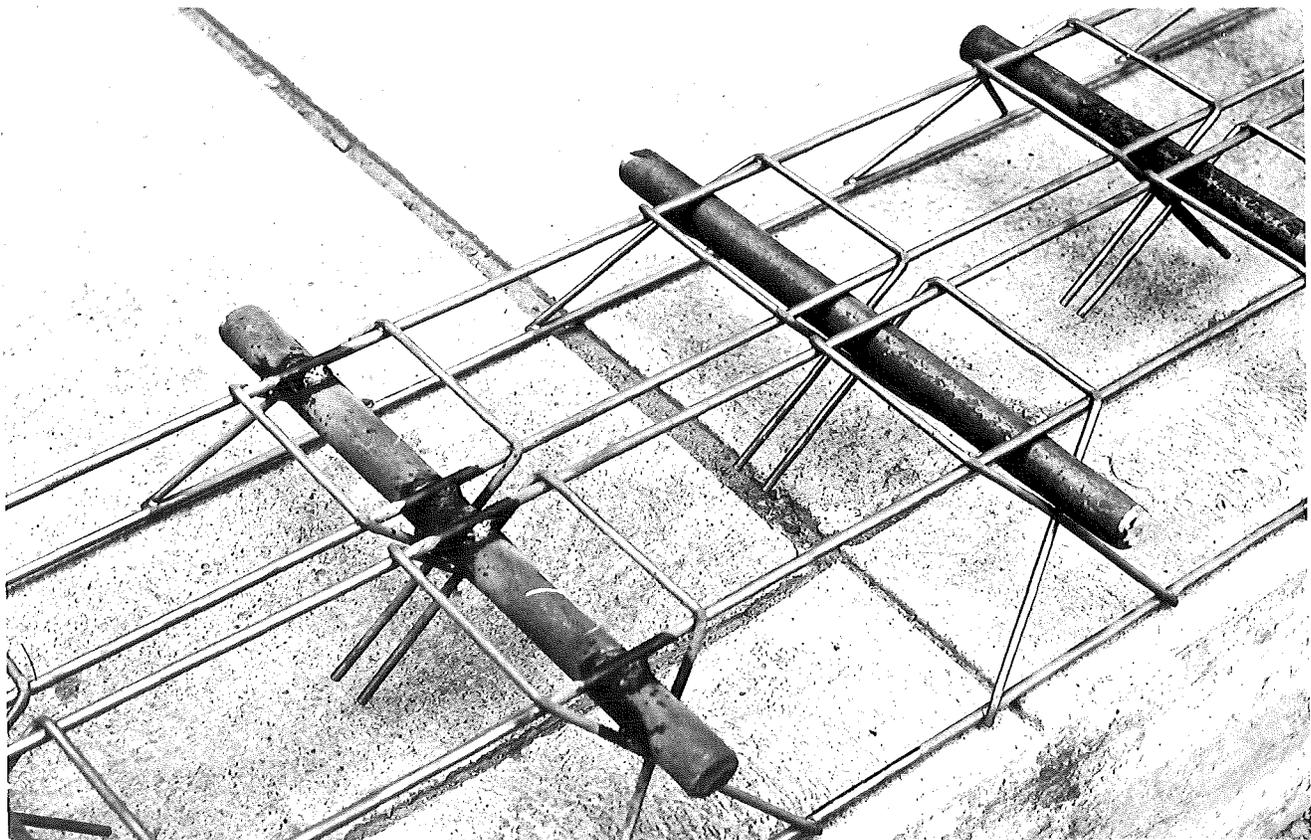
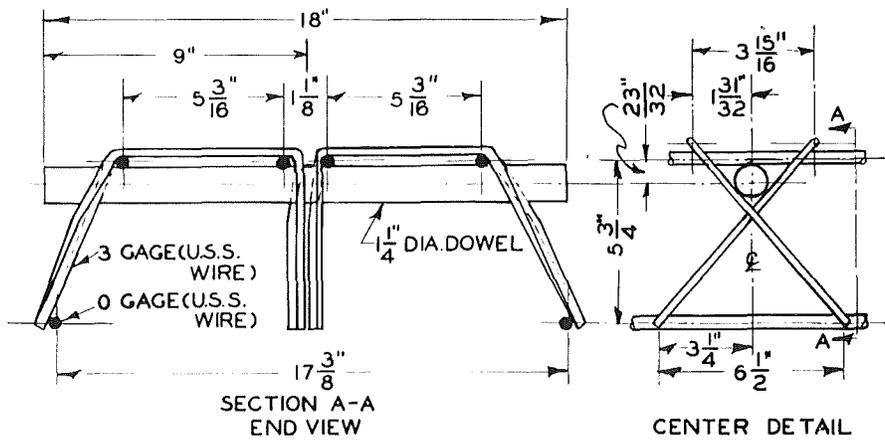
HORIZONTAL DEFLECTION OF DOWEL BAR ASSEMBLIES
TESTED WITH A CENTER HORIZONTAL LOAD ON AN EIGHT FOOT SPAN

FIGURE 20-A (SUPPLEMENT)



▲ FIGURE 29.
OVERALL VIEW OF
DOWEL BASKET ASSEMBLY.

DETAILED VIEWS. ▶



▲ FIGURE 30. CLOSE UP OF DOWEL BAR ASSEMBLY.