INTRODUCTION TO DESIGN OF SHEAR AND MOMENT CONNECTIONS FOR HSS

LIMIT STATES

Matrix of Limit States for Connections to HSS Columns

WIDE-FLANGE BEAM SHEAR CONNECTIONS AT HSS COLUMNS

Single Plate Connections

   Table 3-3.1 Minimum Thickness Table for Punching Shear in Single Plate Connections

   Table 3-3.2 Single Plate Connection Tables

Single Angle Connections

   Table 3-3.3 Single Angle Connection Tables

Double Angle Connections

WT Connections

   Table 3-3.4 WT Connection Tables

Unstiffened Seat Connections

Stiffened Seat Connections

Through-Plate Shear Connections

High Shear Load Connections

CONNECTIONS FOR HSS BEAMS

SHEAR CONNECTION EXAMPLES

WF Beam to HSS Column Single Plate Connection Example
WF Beam to HSS Column Single Angle Connection Example................................. 26
WF Beam to HSS Column Double Angle Connection Example............................ 30
WF Beam to HSS Column WT Connection Example............................................ 33
WF Beam to HSS Column Unstiffened Seat Connection Example.......................... 37
WF Beam to HSS Column Stiffened Seat Connection Example............................. 41
WF Beam to HSS Column Through-Plate Connection Example............................. 47
HSS Beam to HSS Column Double Shear Plate Connection Example.................. 51
HSS Beam to HSS Column Seated Connection with Top Angle Example................ 55
HSS Beam to HSS Column End Plate Connection.................................................. 57
Beam to HSS Column High Shear Load Connection Example.............................. 63

MOMENT CONNECTIONS AT HSS COLUMNS .................................................... 70
Continuous Beam Over HSS Column Connections............................................. 70
Through-Plate Moment Connections.................................................................... 71
Cut-out / Collared Plate Moment Connections.................................................... 71
Welded Tee Flange Moment Connections........................................................... 72
End Plate Moment Connections.......................................................................... 72
Diaphragm Plate Moment Connections............................................................... 73
Directly Welded Connections.............................................................................. 73

MOMENT CONNECTION EXAMPLES ................................................................. 74
Continuous Beam Over HSS Column Connection Example................................. 74
Through-Plate Moment Connection Example...................................................... 84
Cut-Out/Collared Plate Moment Connection Example......................................... 93
Welded Tee Flange Moment Connection Example............................................ 102
Directly Welded Moment Connection Example.................................................. 110
Diaphragm Plate Moment Connection Example................................................ 112