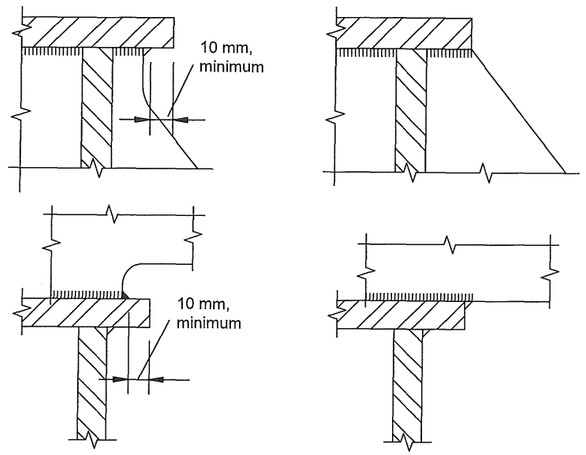
Liftech
LIFTECH CONSULTANTS INC.

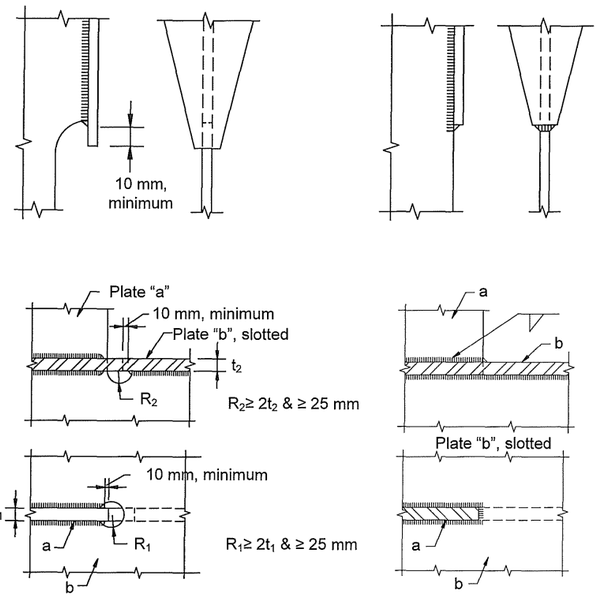
FATIGUE DETAIL GUIDELINES

VERSION 1.0, NOVEMBER 2011

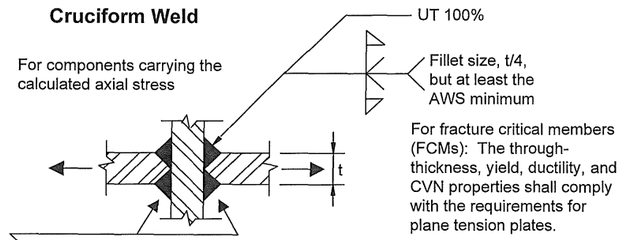
Acceptable | **Not Acceptable**



Acceptable | **Not Acceptable**



Cruciform Weld



For fracture critical members (FCMs): The through-thickness, yield, ductility, and CVN properties shall comply with the requirements for plane tension plates.

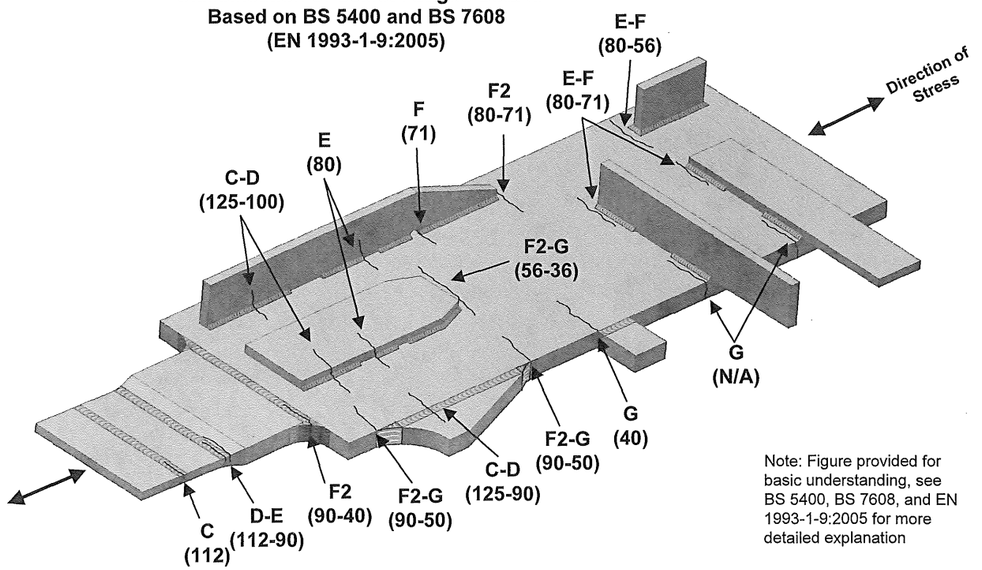
Relative Fatigue Life

Considered Class \ Compared to Class	D	E	F	F2	G
D	1.00	1.46	2.41	3.35	6.08
E	0.68	1.00	1.65	2.42	4.16
F	0.41	0.61	1.00	1.47	2.52
F2	0.28	0.41	0.68	1.00	1.71
G	0.16	0.24	0.40	0.58	1.00

Note: Based on BS 5400, BS 7608, and reliability of 97.8%

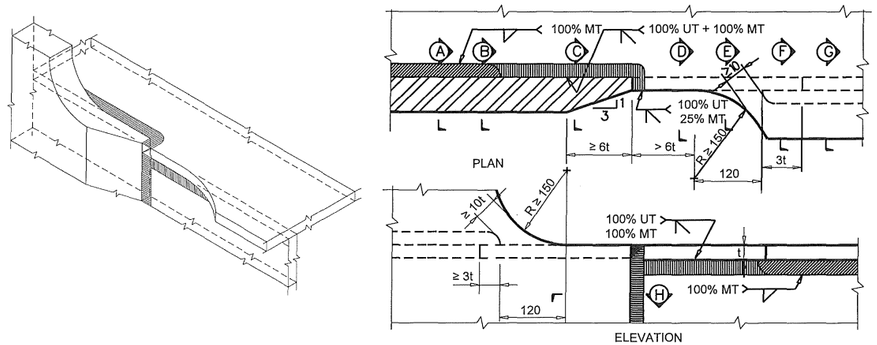
Example: For a given location on a crane, the fatigue life of a class F detail is expected to be 2.52 times that of a class G detail

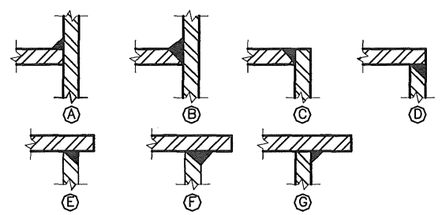
Classification of Select Fatigue Details Based on BS 5400 and BS 7608 (EN 1993-1-9:2005)



Note: Figure provided for basic understanding, see BS 5400, BS 7608, and EN 1993-1-9:2005 for more detailed explanation

Avoidance of Wraparound Weld





Note: Welds shall conform to the most recent edition of AWS D1.1, including the requirements for cyclically loaded structures.

\\moe\REFERENCE\Cranes\Fatigue\Fatigue Detail Guidelines.vsd