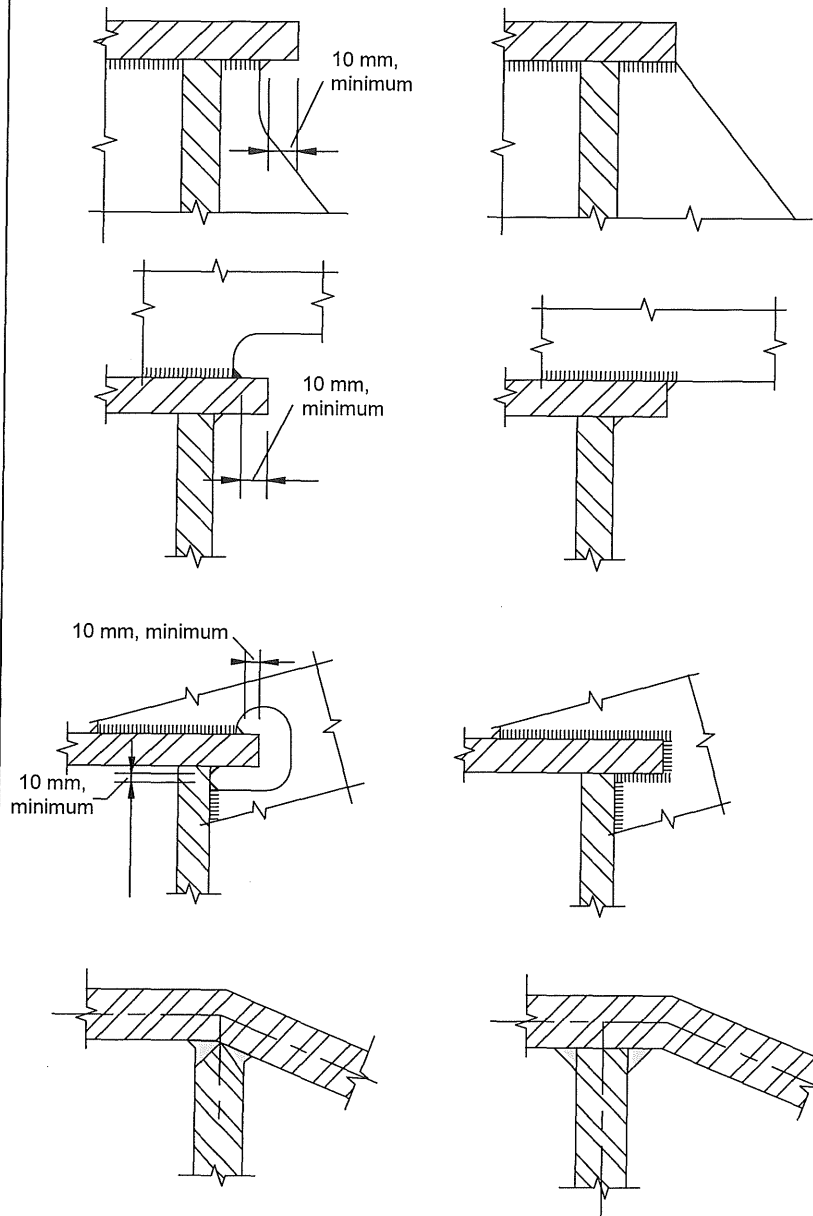


FATIGUE DETAIL GUIDELINES

VERSION 1.0, NOVEMBER 2011

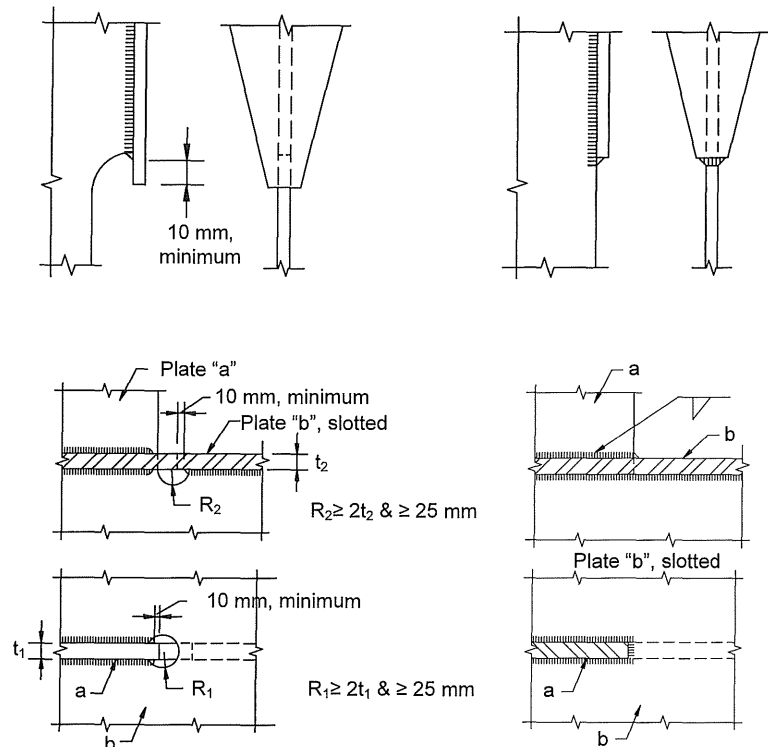
Acceptable

Not Acceptable



Acceptable

Not Acceptable



Cruciform Weld

For components carrying the calculated axial stress

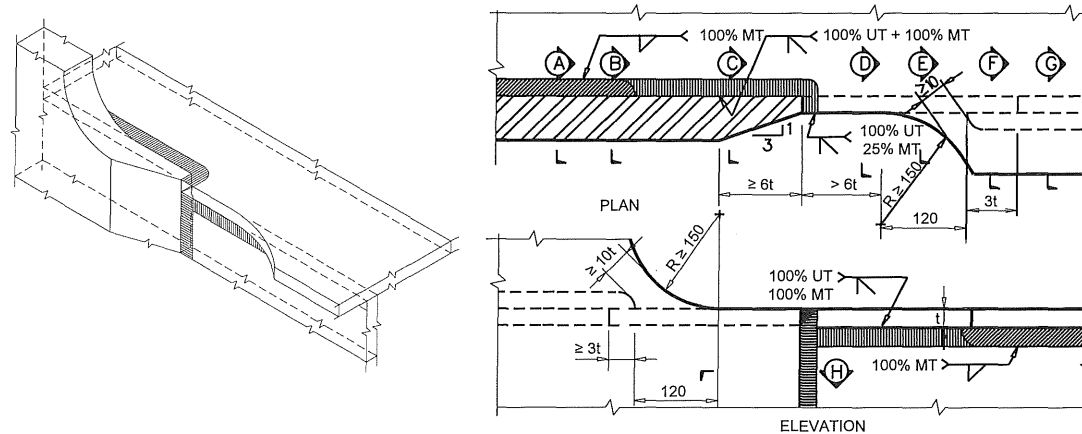
UT inspect to check for lamellar tears before and 36 hours after welding.

UT 100%

Fillet size, $t/4$, but at least the AWS minimum

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

Avoidance of Wraparound Weld



Relative Fatigue Life

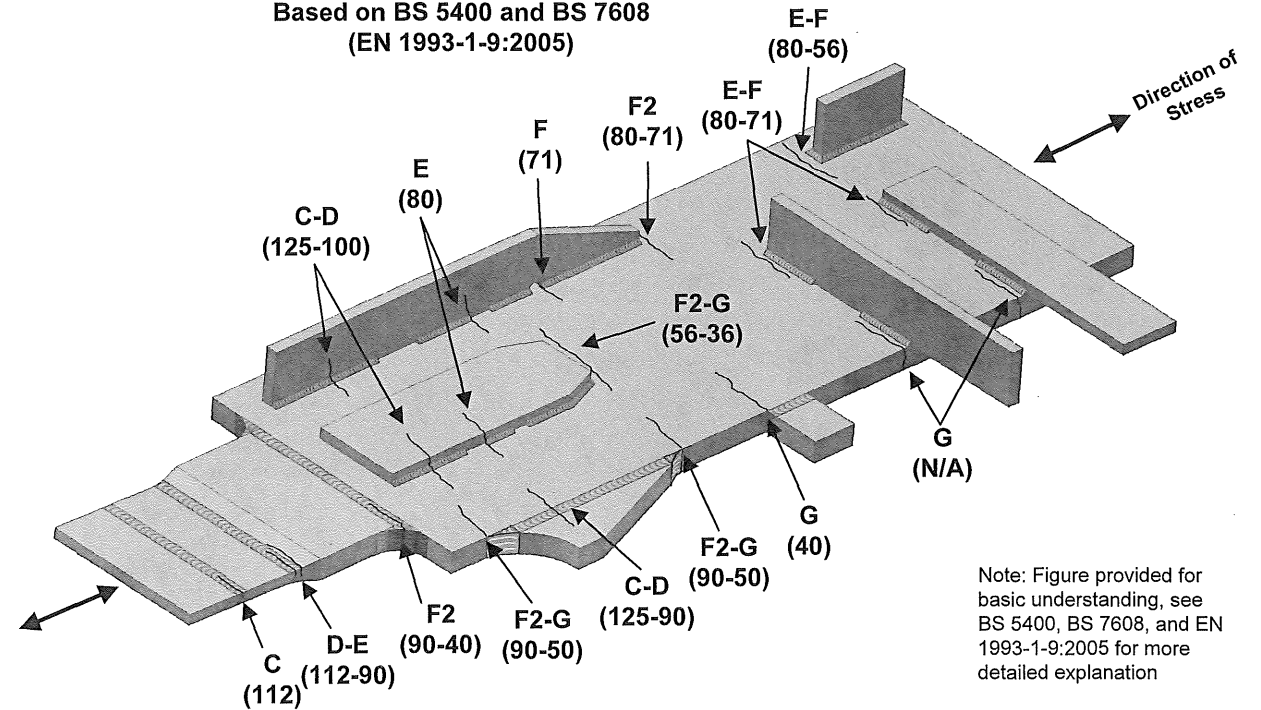
Compared to Class

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

Disclaimer: This guide has been prepared in accordance with recognized engineering principles and is intended for use only by competent persons who, by education, experience, and expert knowledge, are qualified to understand the limitations of the guide. The publication of the information is not intended as a representation or warranty by Liftech Consultants Inc. Liftech Consultants Inc. cannot guarantee that the guide is error free. Liftech Consultants Inc. does not insure the users of this guide for any damages.

Anyone making use of the information assumes all liability arising from such use.

Copyright ©2011 by Liftech Consultants Inc. A California Corporation. All rights reserved.