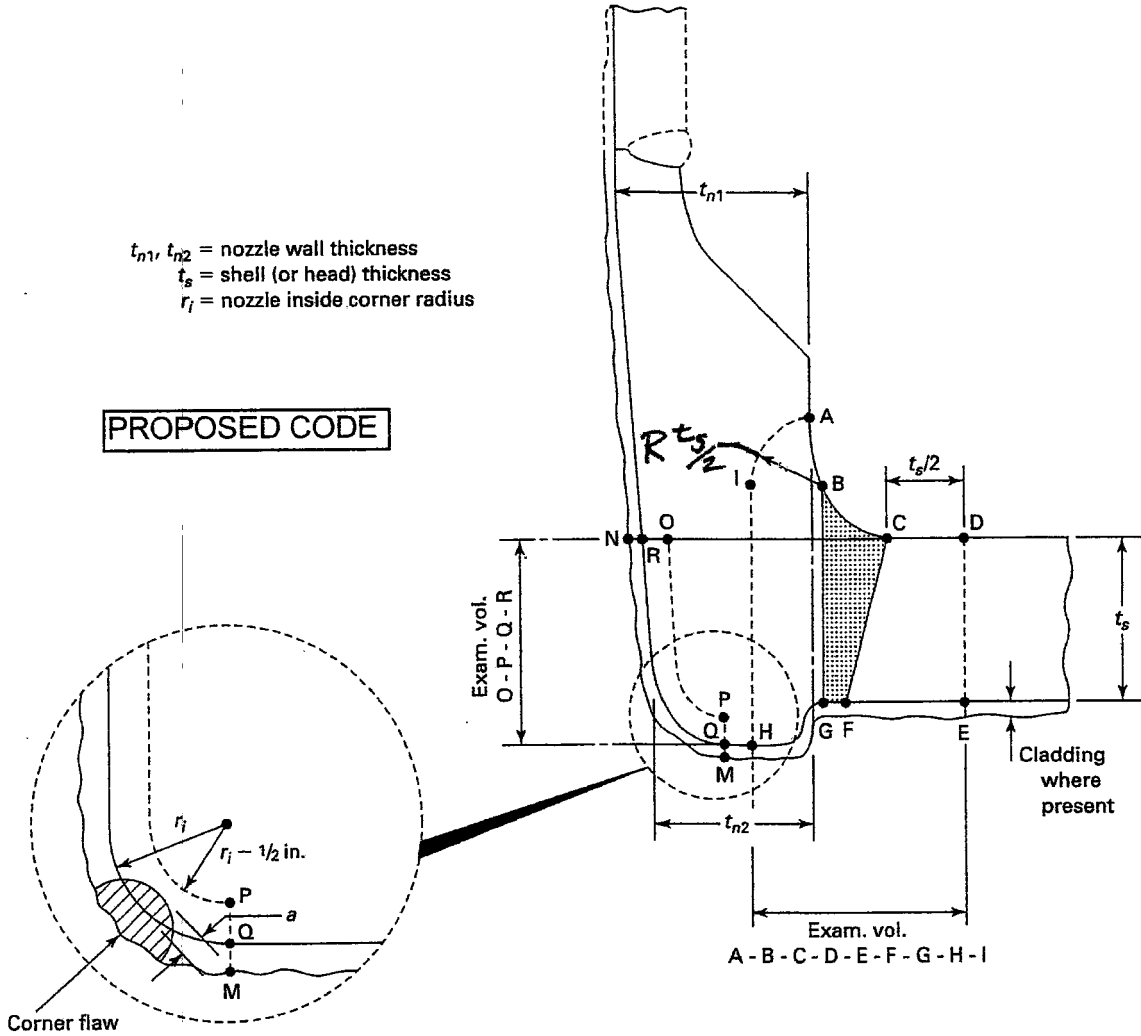


Figure IWB-2500-7(a)
Nozzle in Shell or Head
(Examination Zones in Barrel Type Nozzles Joined by Full Penetration Corner Welds)

t_{n1}, t_{n2} = nozzle wall thickness
 t_s = shell (or head) thickness
 r_i = nozzle inside corner radius

PROPOSED CODE



EXAMINATION REGION [Note (1)]

- Shell (or head) adjoining region
- Attachment weld region
- Nozzle cylinder region
- Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]

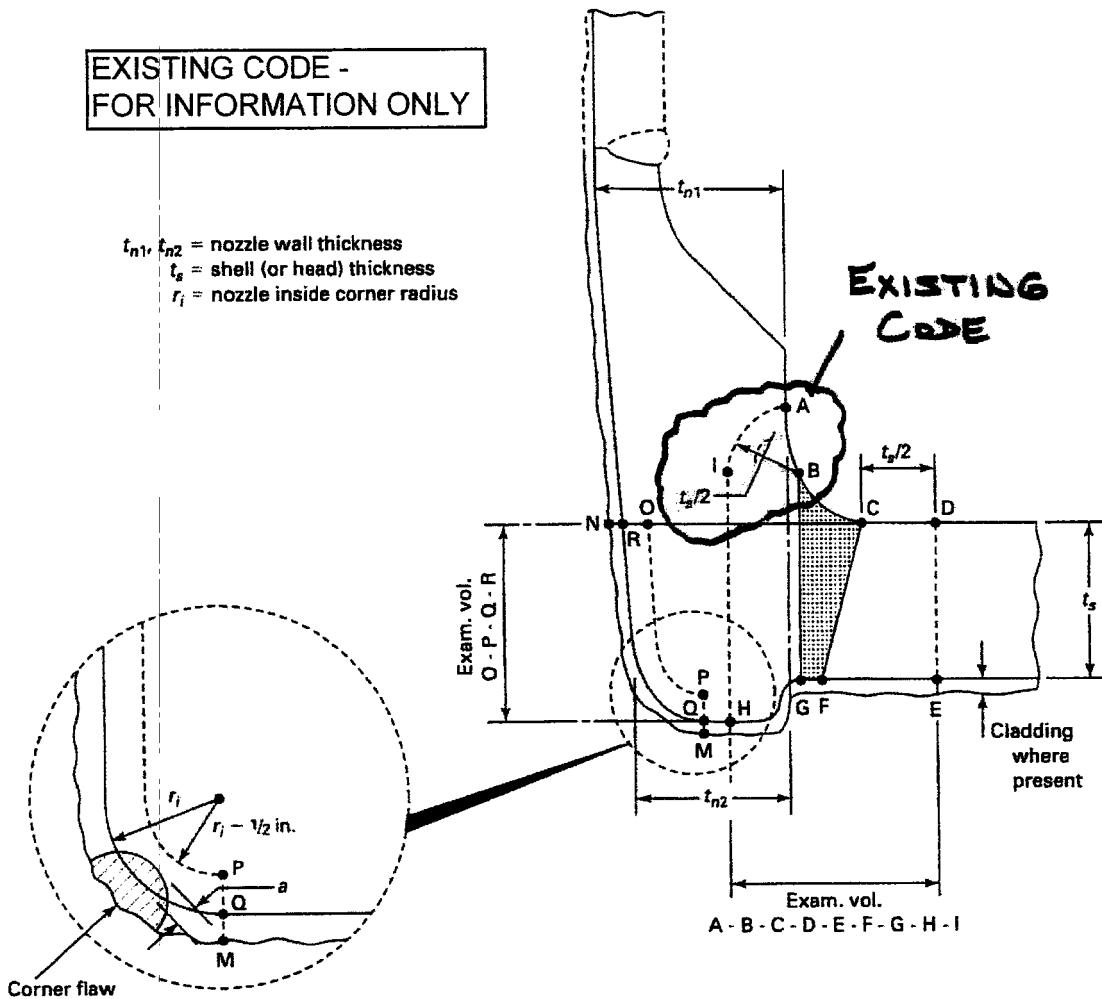
- C-D-E-F
- B-C-F-G
- A-B-G-H-I
- O-P-Q-R

GENERAL NOTE: $\frac{1}{2}$ in. = 13 mm

NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

Figure IWB-2500-7(a)
Nozzle in Shell or Head
(Examination Zones in Barrel Type Nozzles Joined by Full Penetration Corner Welds)



EXAMINATION REGION [Note (1)]

- Shell (or head) adjoining region
- Attachment weld region
- Nozzle cylinder region
- Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]

- C-D-E-F
- B-C-F-G
- A-B-G-H-I
- O-P-Q-R

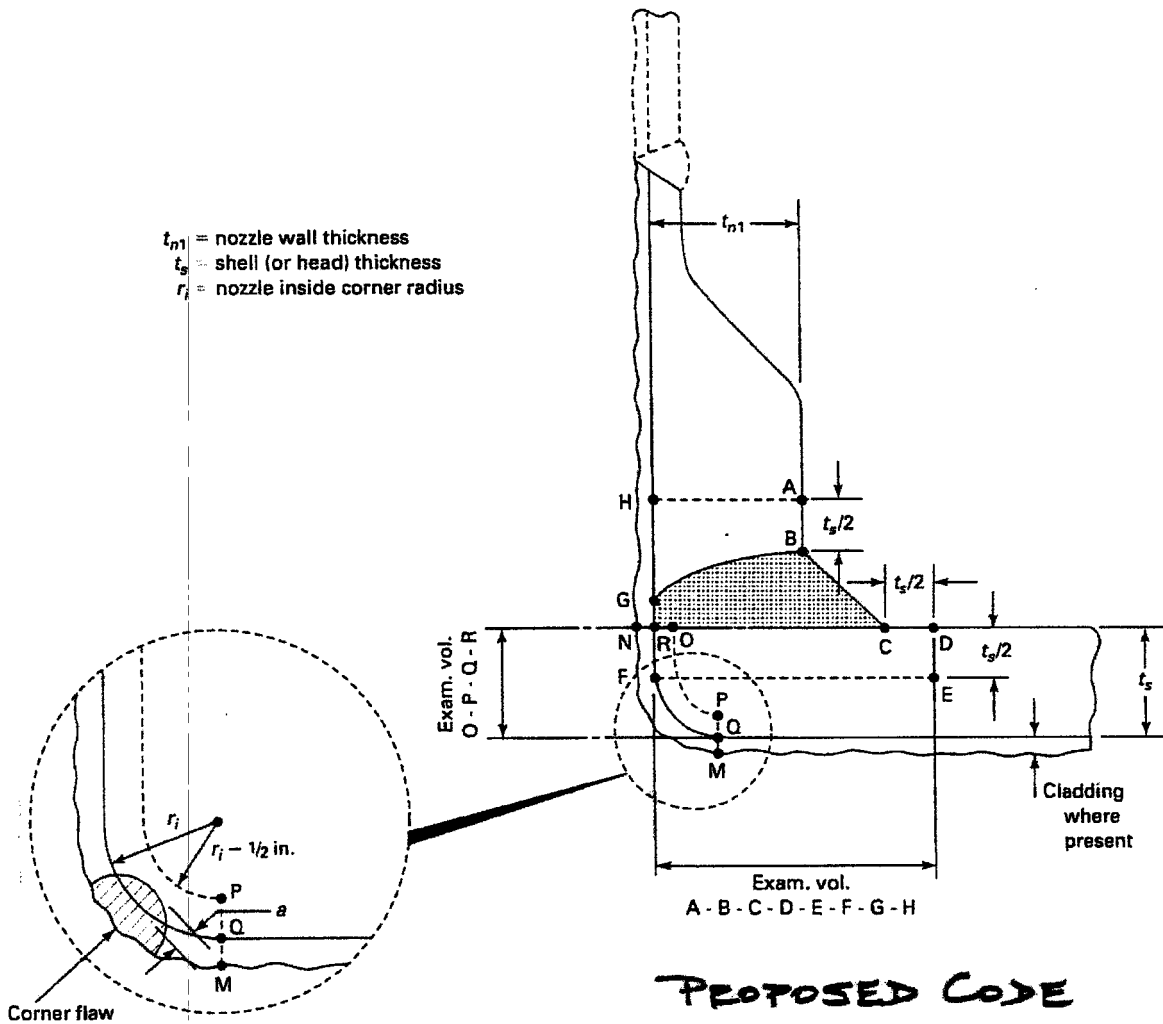
GENERAL NOTE: $\frac{1}{2}$ in. = 13 mm

NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

IWB-2500-7(c)
Nozzle in Shell or Head
(Examination Zones in Set-On Type Nozzles Joined by Full Penetration Corner Welds)

t_{n1} = nozzle wall thickness
 t_s = shell (or head) thickness
 r_i = nozzle inside corner radius



PROPOSED CODE

EXAMINATION VOLUME [Note (2)]

C-D-E-F-G ← **C-D-E-F-R**
 B-C-G ← **B-C-R**
 A-B-G-H
 O-P-Q-R
BCRG

EXAMINATION REGION [Note (1)]

- Shell (or head) adjoining region
- Attachment weld region
- Nozzle cylinder region
- Nozzle inside corner region

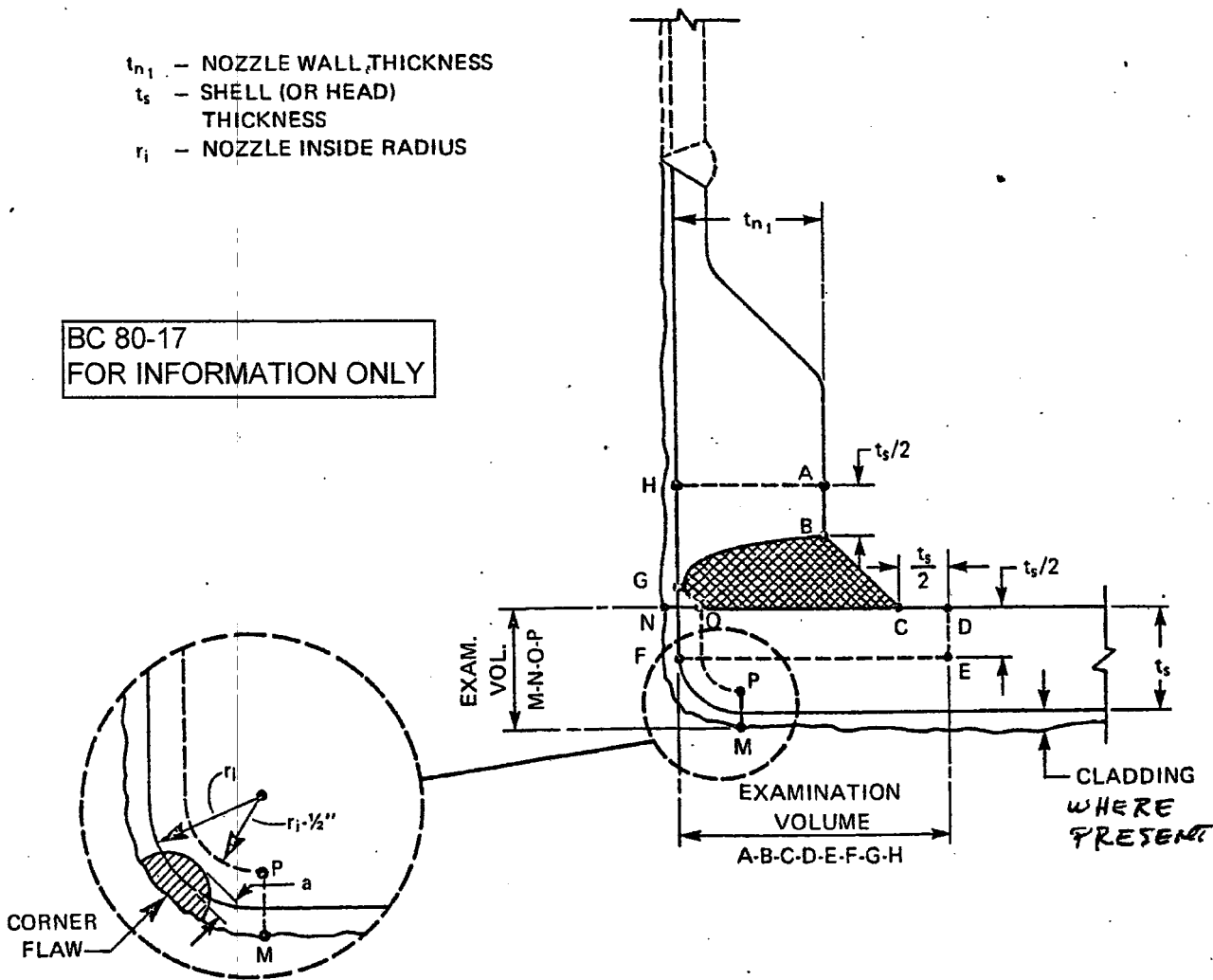
GENERAL NOTE: $\frac{1}{2}$ in. = 13 mm

NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

t_{n1} - NOZZLE WALL THICKNESS
 t_s - SHELL (OR HEAD) THICKNESS
 r_i - NOZZLE INSIDE RADIUS

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EXAMINATION REGION ¹	EXAMINATION VOLUME ²
SHELL (OR HEAD) ADJOINING REGION	C-D-E-F-G
ATTACHMENT WELD REGION	B-C-G
NOZZLE CYLINDER REGION	A-B-G-H
NOZZLE INSIDE CORNER REGION	M-N-O-P

- (1) EXAMINATION REGIONS ARE IDENTIFIED FOR THE PURPOSE OF DIFFERENTIATING THE ACCEPTANCE STANDARDS IN IWB-3512.
- (2) EXAMINATION VOLUMES MAY BE DETERMINED EITHER BY DIRECT MEASUREMENTS ON THE COMPONENT OR BY MEASUREMENTS BASED ON DESIGN DRAWINGS.

FIG. IWB-2500-7(c) NOZZLE IN SHELL OR HEAD
 (Examination Zones In Set-On-Type Nozzles Joined By Full Penetration Corner Welds)

COR
 =L

(1)

(2)

12

IWA-5250 CORRECTIVE ACTION

(a) The sources of leakage detected during the conduct of a system pressure test shall be located and evaluated by the Owner for corrective action as follows:

(2) If leakage occurs at a bolted connection in a system bolated for the purpose of controlling reactivity, one of the bolts or studs shall be removed, VT-3 visually examined, and evaluated in accordance with IWA-3100. The bolt or stud selected shall be the one closest to the source of leakage. When the removed ~~bolt~~ has evidence of degradation, all remaining ~~bolting~~ in the connection shall be removed, VT-3 visually examined, and evaluated in accordance with IWA-3100. If all ~~bolting bolts or studs~~ in the connection ~~is~~ are replaced in accordance with IWA-4000, no VT-3 visual examination of the removed ~~bolting bolts or studs~~ is required.

~~bolt or stud~~ →

← ~~bolts or studs~~

IWA-5251 Alternative Corrective Action for Leakage Identified at Bolted Connections

As an alternative to the requirements of IWA-5250(a)(2), the requirements of (a), (b), and (c) shall be met.

(c) The evaluation required by (a) and (b) shall determine the susceptibility of the bolted connection to corrosion and failure. The evaluation shall include analysis of the following:

- (1) the number and service age of the bolts or studs
- (2) bolt or stud, and component, material

Appendix IV, Supplement 3 Qualification Requirements for Surface Examination of Bolting - Center Bore Holes

1.0 Specimen Requirements

(b) The effect of the presence of corrosion products must be evaluated if the bore hole of the bolt or stud is not thoroughly cleaned prior to examination [IV-3120(b)].

G-2222 Consideration of Membrane and Bending Stresses

(b) For purposes of this evaluation, stresses which result from bolt or stud preload shall be considered as primary.

(c) It is recommended that when the flange and adjacent shell region are stressed by the full intended bolt or stud preload and by pressure not exceeding 20% of the preoperational system hydrostatic test pressure, minimum metal temperature in the stressed region should be at least the initial RT_{NDT} temperature for the material in the stressed regions plus any effects of irradiation at the stressed regions.

Editorial
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