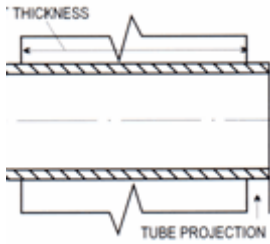


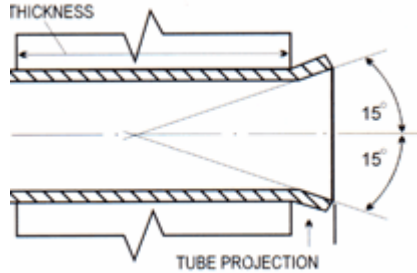


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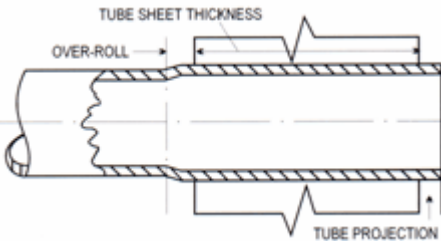
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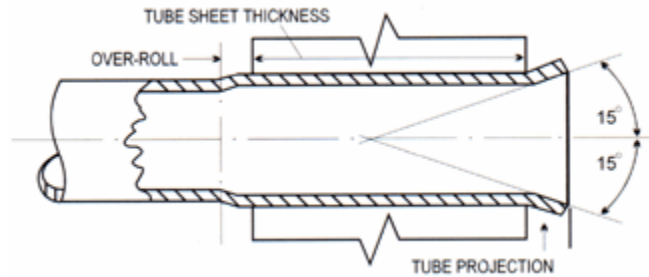
Straight Expansion



Flared Expansion



Over Roll Expansion



Over Roll & Flared Expansion

Expander Worksheet

Tube O.D.	Eg: 19.05mm	
Tube Wall Thickness	Eg: 1.65mm	
Tube Sheet Thickness	Eg: 40.00mm	
Expansion Length	Eg: 40.00mm	
Expansion Type	Eg: Straight	
Tube Material	Eg: Steel	
Tube Sheet Hole I.D.	Eg: 19.50mm	
Tube Projection	Eg: 0.00mm	

Finished I.D. Calculator

Example for 20.0mm O.D. by 1.5mm wall tube

A Tube Sheet Hole I.D.	Eg: 19.30mm	
B - Tube O.D.	Eg: 19.05mm	
C = Clearance (A-B)	Eg: 0.25mm	
D + Tube I.D.	Eg: 15.70mm	
E Tube Wall Thickness (B-D)	Eg: 3.30mm	
F + Calculated 5% Wall Reduction (0.05 x E)	Eg: 0.17mm	
G = Finished Rolled Tube I.D. (C+D+F)	Eg: 16.12mm	

Expander required: _____