

1.0 PURPOSE

The purpose of this work instruction is to establish the layout of PBM division and maintain documented procedure that describes method of bends manufactured by Bendco.

2.0 SCOPE

This work instruction contains lay out of PBM process, methods and requirements to maintain the implementation of these work instructions.

3.0 RESPONSIBILITY

Assistant Manager / Sr. Engineer/Sr. officer / Engineer / Officer and HOD (QA/QC) shall be responsible for proper manufacture of Bends. As per lay out.

4.0 METHOD

Layout Marking on layout bed shall be done as per the required dimensions (as per approved QAP/Process chart / client spec).

CONTROL OF PROJECT SPECIFIC LAY OUT

Lay out shall be provided as below to Final Inspection for Verification.

WCL/PBM/QC/LO/XXXXX/YY

Where:

- WCL – Company Name PBM – Plant Name QC – Quality Control LO – Lay Out
- X– Project Identification, it may consist maximum of 5 numerical, alphabetical or special character or combination.
- Y – No. of lay out as per Size of Bends

Example

WCL/ PBM /QC/LO/ESSAR/ 01

Where:

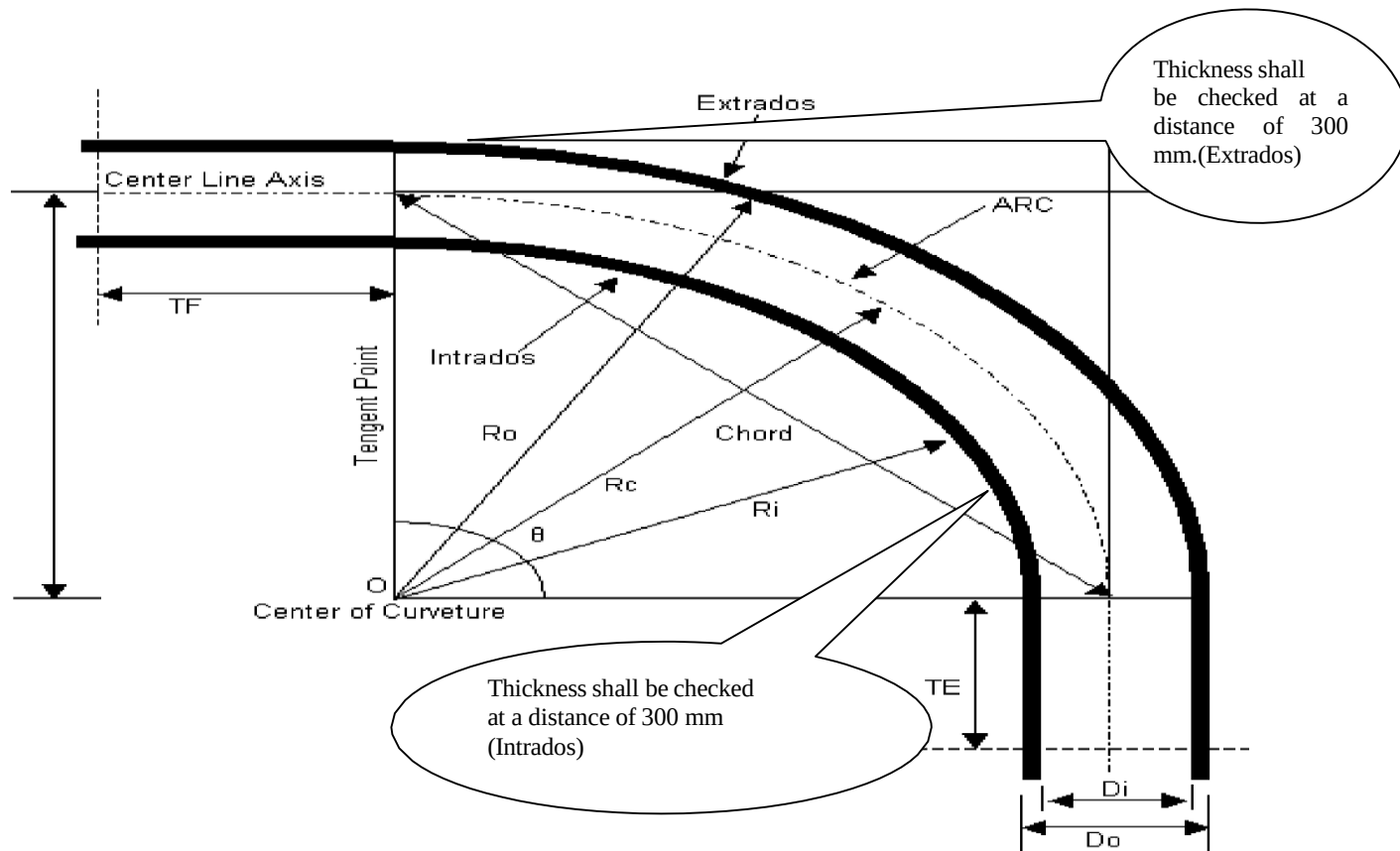
- 01 is Lay out for size wise of Bends ESSAR is Project Identification

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4.1 Verified lay out shall be release for bend inspection with control: WCL/PBM/QC/LO/XXXXX/YY

4.2 The bend angle shall be determined as follows see Figure WCL/PBM/QC/LO/XXXXX/YY

- 18.3.5 a) Extend the center line axis of each tangent to the "center of bend" where the two axes cross.
b) Measure and mark the distance from the "center of bend" to each of the "center of ends".
c) Calculate the bend angle from the two "center of bend" to "center of end" dimensions and the chord Length.



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BENDING PROCEDURE 18

**P. O. Box 5811
Kingwood, Texas 77325**

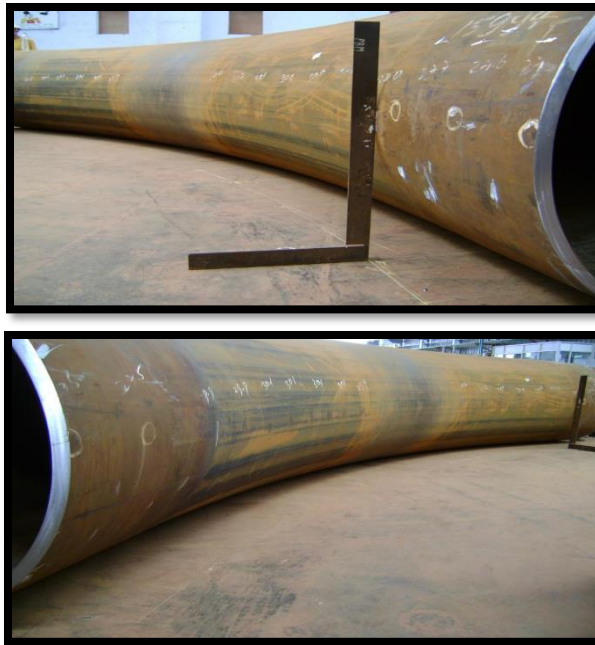
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Sr. No.	Nomenclature	Description	Requirement (Nominal)
			In mm
1	chord	Length of chord	As per QAP/ Process chart
2	Rc	Radius at Center	As per QAP/ Process chart
3	Ro	Outer Radius (Bend)	As per QAP/ Process chart
4	Ri	Inner Radius (Bend)	As per QAP/ Process chart
5	Do	Outer Dia (Pipe)	As per QAP/ Process chart
6	Di	Inner Dia. (Pipe)	As per QAP/ Process chart
7	T	Mother Pipe Thickness	As per QAP/ Process chart
8	TF	Tangent at F end	As per QAP/ Process chart
9	TT	Tangent at T end	As per QAP/ Process chart

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18.3.6 Verification of layout marking shall be done by calibrated measuring tape.

18.3.7 Bend shall be kept on properly on the layout marking.



18.3.8 If bend layout is not in acceptance limit, than rectification (if allowed by Approved QAP / Client spec.) will be done & re-verification shall be taken.

18.3.9 Bends not meeting layout requirement shall be rejected and NCR shall be raised. The rejected bend shall be identified with RED band on circumference at both ends inside surface

5.0 REFERENCE DOCUMENTS

Process Chart /QAP

6.0 RECORDS

WCL/PBM/QC/F/07

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