

**LESSON PLAN**

Date \_\_\_\_\_

Trade:- Welder

Name \_\_\_\_\_

Week No:- seven

Subject :-

Welding position as per EN and ASME :flat, horizontal, vertical and over head. Weld slop and rotations. Welding symbols as per BIS, AWS and BS.


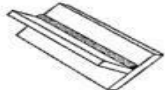
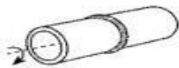



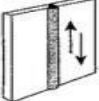
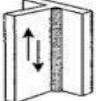



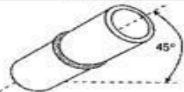







Motivations:- in previous week we learned about Arc welding power source- Transformer, rectifier, motor generator set and inverter type welding machine. Care and maintenance.

Advantages and disadvantages of AC and DC welding machine.

**PREPARATION:** - Teaching Aids:-Chalk, Charts,

**INTRODUCTION:** - in every job a welder use at least one position. Welding position mean direction of electrode to the job.

**PRESENTATION:-**

Topic	Information Point	Spot Hint
<b>AWS according to ASME section IX EN according to ISO 6947, NEN-EN 287</b>		<b>Welding positions according to EN 26947</b>
 AWS: 1G EN: PA	 AWS: 1F EN: PA	 AWS: 1G EN: PA
 AWS: 2G EN: PC	 AWS: 2F EN: PB	 AWS: 2G EN: PC
 AWS: 3G EN: PG (down) PF (up)	 AWS: 3F EN: PG (down) PF (up)	 AWS: 5G EN: PG (down) PF (up)
 AWS: 4G EN: PE	 AWS: 4F EN: PD	 AWS: 6G EN: H-L045
 PA	 PB	 PC
 PG	 PG	 PE
 PD	<b>Weld slop and rotations</b>	

d) *Overhead Position* — A position in which the weld slope does not exceed  $45^\circ$  and the weld rotation is greater than  $90^\circ$  ( Fig. 17 ).

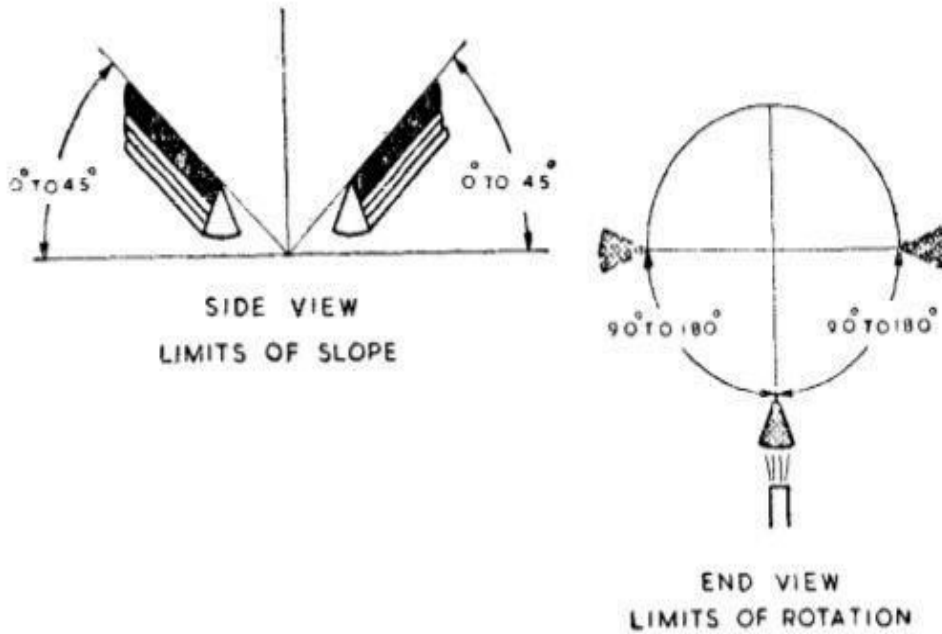


FIG. 17 OVERHEAD POSITION

e) *Reinforcement* — Weld metal lying outside the plane joining the toes ( Fig. 18 ).

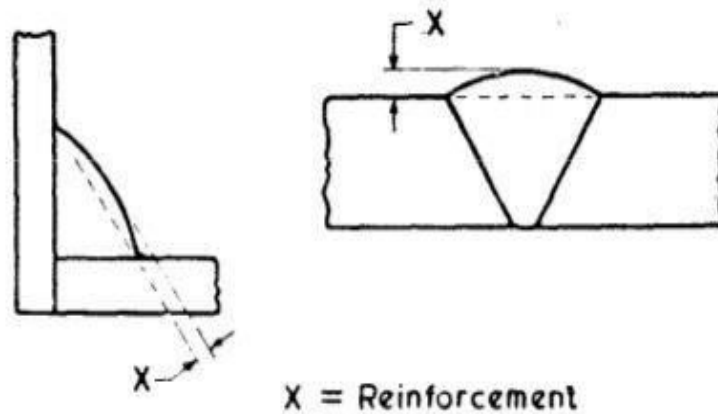
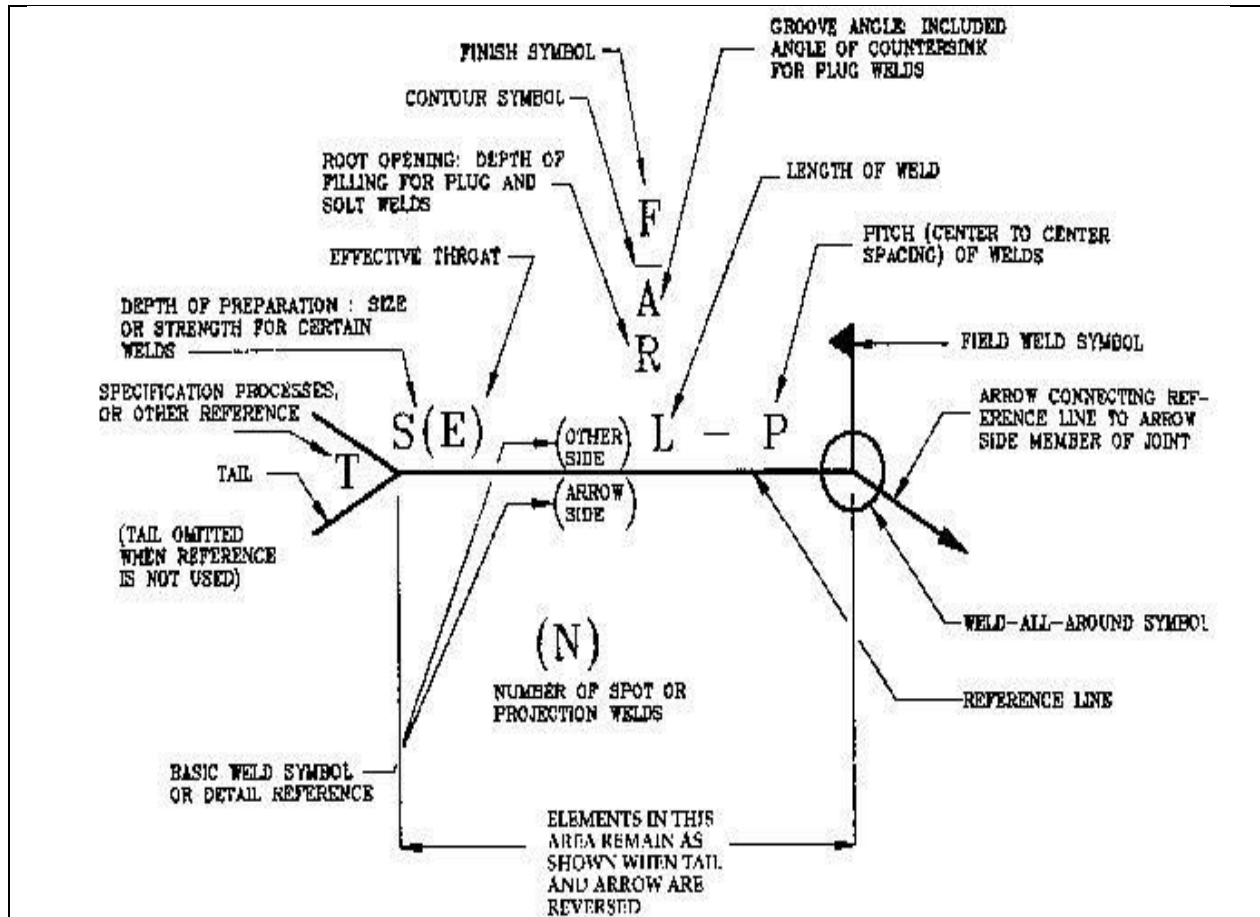


FIG. 18 EXAMPLES OF REINFORCEMENT

Weld symbols



Standard Location of Elements of a Welding Symbol

Weld all around	Field weld	Melt-thru	Backing or spacer material	Contour		
				Flush	Convex	Concave

Figure 8.2 Supplementary Weld Symbols

Basic Welding Symbols and Their Location Significance					
Location Significance	Filler	Plug or Slot	Spot or Projection	Stud	Seam
Arrow Side					
Other Side				Not Used	
Both Sides		Not Used	Not Used	Not Used	Not Used
No Arrow Side or Other Side Significance	Not Used	Not Used		Not Used	

Location Significance	Back or Backing	Surfacing	Flange Corner	Flange Edge
Arrow Side				
Other Side		Not Used		
Both Sides	Not Used	Not Used	Not Used	Not Used
No Arrow Side or Other Side Significance	Not Used	Not Used	Not Used	Not Used

Questions:-

1. Describe welding positions in detail.
2. What is weld slop and rotations?
3. Describe weld symbols in details.

Next week:- Arc length-types-effects. Polarity –types and applications.

Assignments: Welding position as per EN and ASME :flat, horizontal, vertical and over head.

Weld slop and rotations. Welding symbols as per BIS, AWS and BS.

Checked by.....

Instructor.....