

Off-Line Bar Testing

Job Description:

Dia Range : 5 mm to 100 mm
Length : 2 m -10 m
Material : Carbon Steel, Alloy Steel
Type : Bright / Black Bars

Test Task:

- ◆ Longitudinal and Transverse Flaw Detection
- ◆ Core Defects Detection

Scope:

- ◆ Choice of Digital or Analogue Electronics
- ◆ Test Electronics with up to 8 individually programmable channels
- ◆ Test Mechanics includes: Inlet Cradle, Conveyor consisting of drive rollers & pinch rollers, Test table with immersion tank, Water recirculation system, Accept / Reject cradle, 2 axis manipulators
- ◆ PLC based fully automated working
- ◆ PC based data logging & test report generation (Option with Digital Electronics)
- ◆ Line focused immersion probes
- ◆ Paint marking facility to locate & mark defective area
- ◆ Audio / Visual Alarms

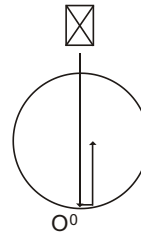


**BAR
TESTING
SYSTEM**

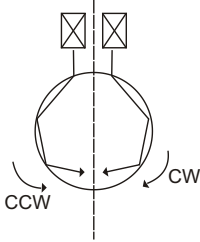
Scan Patterns - 5 basic configurations

Normal Beam Inspection:

Suitable to detect subsurface defects, mainly in core area.
 Defects oriented along the axis of the bar.
 Defects detected - piping, inclusions, cracks.



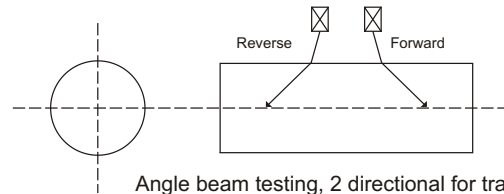
Normal beam inspection for core defects



Angle beam testing, 2 directional for longitudinal defects, surface & sub surface

Angle Beam, Longitudinal:

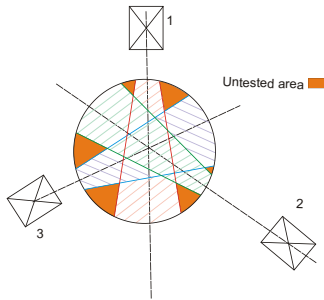
Suitable to detect subsurface & Surface defects.
 Defects oriented along the axis of the bar.
 Defects detected - cracks.



Angle beam testing, 2 directional for transverse defects, surface & sub surface

Angle Beam Transverse:

Suitable to detect subsurface & surface defects.
 Defects oriented transversely to the bar axis.
 Defects detected - cracks.

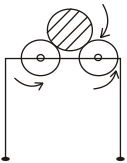


Multi Normal Beam Probe Inspection Technique

No. of probes used depends on coverage required & Bar diameter.

Bar Movement in a test system

1. Bar moves forward in a straight line on a 'V' Roller conveyor. This technique is suitable for normal beam inspection. Primarily, With limitation it can be applied for longitudinal surface & Subsurface crack detection. Higher test speeds, independent of bar dia., throughput speed in excess of 30m/min. are achieved.
2. Bar Moves Forward while rotating i.e. helical forward motion on a roller conveyor, between 2 rolls which are rotating



Roller are indexed to give helical forward motion. This technique is suitable for normal & angle beam inspection. Scanning the entire cross section for surface & subsurface as well as core defects. Lower test speeds. Higher the dia. lower the resultant through put speed
 Typical 10m/mm for bar dia. 40 mm



Test Mechanics For Bar Testing

Manufactured & Marketed by :

ELECTRONIC & ENGINEERING CO. (I). P. LTD.

Division: PARIKH INDUSTRIES

8, 2nd Floor, Jyoti Wire House, Near Kolsite, Off Veera Desai Road, Andheri (W), Mumbai- 400053. India

Tel.: 91-22-2673 5050 / 6692 0225 ♦ Fax: 91-22-6691 9792, E-mail: ndtsales@eecindia.com ♦ Website : www.eecindia.com

