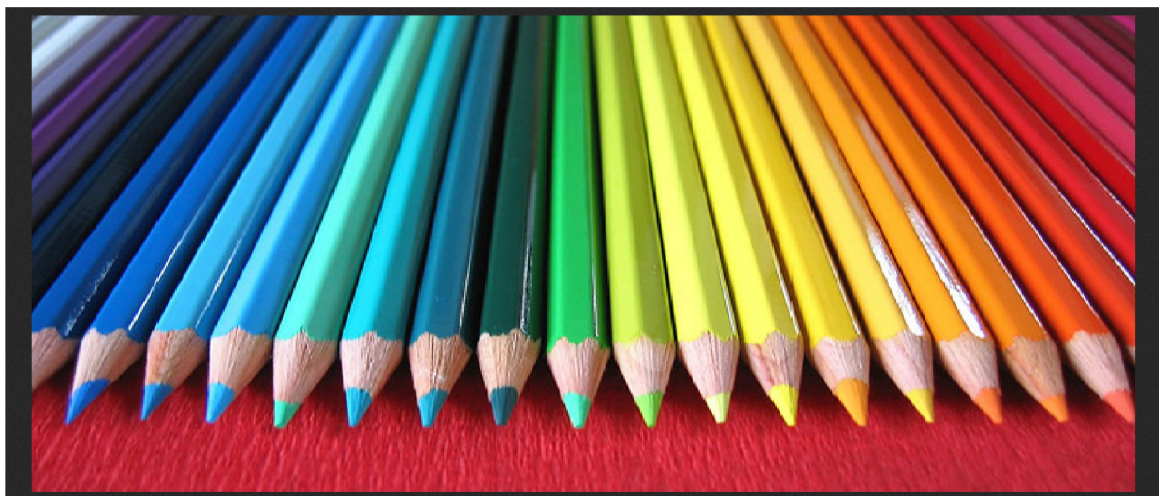
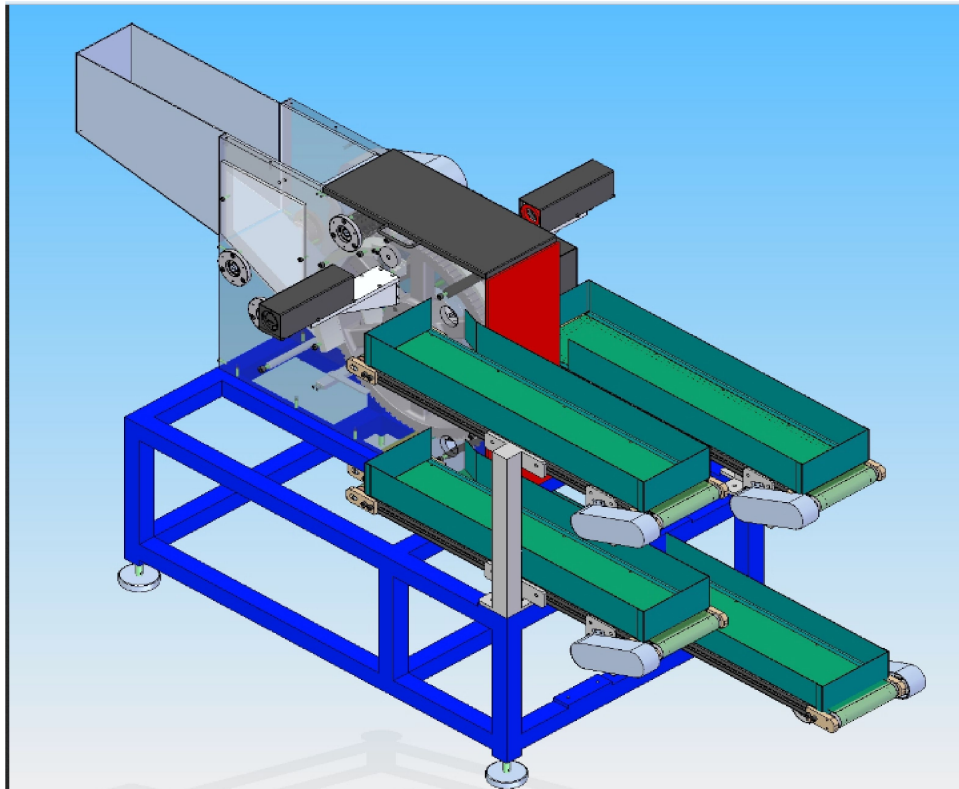




Industrial Vision Systems

• Innovation • Knowledge • Success •

PENCIL INSPECTION SYSTEM



Tej Control Systems Pvt. Ltd. Plot no 329/331, Satish Ind Engg, Road no 25, Wagle Ind Estate.
Thane (W). Mumbai, India Ph : +91 22 25838191 to 97 Fax:+91 22 25838199

www.tejivs.com



Industrial Vision Systems

• Innovation • Knowledge • Success •

Characteristics

Features :

- High Rate of flexibility And Compatibility.(Height Adjustment Upto 100 mm)
- Easy Operation,High Durability.
- High Resolution CCD Camera Increases accuracy And Reliability of the Inspection.
- Detects rate of 99% or better.
- Automatic Rejection System with four numbers of categories.
 - 1) Front side defect
 - 2) Back side defect
 - 3) Both side defect
 - 4) Perfect good
- Statistical Management of quality through Synchronized reports.

Benefits :

- Provides Stable inspection operation for long period of time.
- Uses high resolution CCD camera to improve accuracy.
- Important production data,Parameters ,Rejection and defect rates,
- Use of high Intensity LED stroboscope illumination extend the service lifespan of the unit.
- Operation is done by via touch screen with password protection.
- To reduce manpower.
- To improve the quality.
- High Inspection Rate with required accuracy.

Tej Control Systems Pvt. Ltd. Plot no 329/331, Satish Ind Engg, Road no 25, Wagle Ind Estate.
Thane (W). Mumbai, India Ph : +91 22 25838191 to 97 Fax:+91 22 25838199

www.tejivs.com



Industrial Vision Systems

• Innovation • Knowledge • Success •

Machine Description :-

- **Feeder Conveyor:** This conveyor will feed the pencil to the drum mechanism. This will collect pencils up to 15 minutes of backup.
- **Main drum:** This is an aluminum alloy drum which will carry the pencils at constant pitch in front of the camera. This drum will expose the two ends of the pencil to the camera and then to the rejection station.
- **Camera station:** Camera is mounted on a vibration free stands which will firmly hold the camera during the machine run.
- **Rejection station:** We have three types of rejection which will be done on the drum itself and they are carried to a separate place.
- **Output:** This machine is capable of inspecting up-to 15 pencils per second.
- **Camera:** Double Camera Vision System for Pencil Inspection consists of Dual Cameras with lens 1/3" CCD type cameras with shutter speed of 1/20,000. Lens having adjustable focus and aperture. These camera has a Vision Processor with 35 I/O's and 32 menus for programming different types of products. The camera is mounted on a Vibration proof stand with Enclosure and Lux controlled lighting. 14" LCD flat monitor is used for diagnostic purpose and programming. PLC based control panel with all standard protections and Class-I power supply for superior image stability.



Industrial Vision Systems

• Innovation • Knowledge • Success •

SPECIFICATION	
DESCRIPTION	SPECIFICATION
Application	Pencil Inspection Machine
Criteria	Inspection of Pencil
Throughput/rate	60,000 component per hr.
Range	Hexagonal,Round,Triangle Pencils
Design	Complies with current GMP recommendation
Camera	1/3 CCD area scan camera
Voltage	415V,3 Phase,50Hz
Compressed air	Pressure 6 Bar, Connection 1/2"
Net weight	2,900Kg
Length X Height X Width	2900X1100X1500mm

Tej Control Systems Pvt. Ltd. Plot no 329/331, Satish Ind Engg, Road no 25, Wagle Ind Estate.
Thane (W). Mumbai, India Ph : +91 22 25838191 to 97 Fax:+91 22 25838199

www.tejivs.com



Industrial Vision Systems

• Innovation • Knowledge • Success •

Types of Defects to be inspected by the machine :

<i>DEFECT LIST</i>					
Sr No	Defect Type	Actual Image	No of Camera	Defect Specification Percentage	Conditions
1	Lead Off-Centering on both Sides.		2	100%	Lid off centering more than 2mm
				<100%	Lid off centering less than 2mm
2	Lid Missing.		2	100%	Presence/Absences of lid
3	End chipping defects.		2	100%	Chipping size more than 2mm
				<100%	Chipping size less than 2mm
4	Cracked leads or Lead chip-off		2	100%	Total Lead Crack.
				< 100%	Crack more than 1mm.

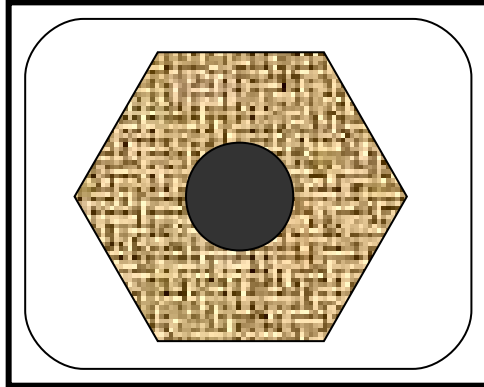


Industrial Vision Systems

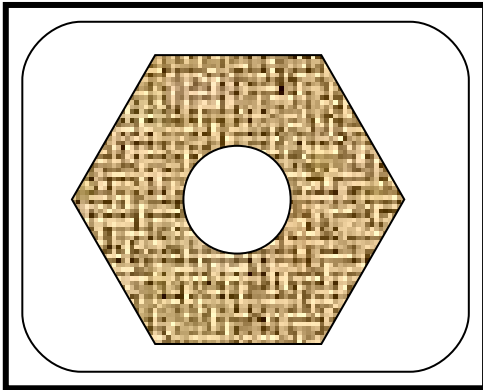
• Innovation • Knowledge • Success •

TABLE BELOW SHOWS THE CAMERA RESULT FOR OK AND BAD SAMPLES:

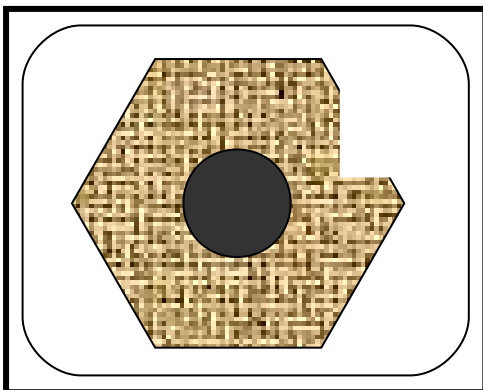
OK SAMPLE



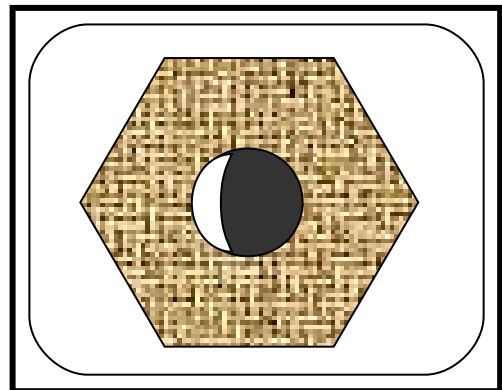
LEAD MISSING



WOOD CHIP-OFF



LEAD CHIP-OFF



LEAD OFF-CENTERING

