Stop Time Measurement Report

Phone: +1 (740) 816-9178
E-mail: Info@MSS-Safety.com

MACHINE SAFETY SPECIALISTS
Machine Safeguarding Experts

MACHINE NAME/ID: CELL #27 / CLIP MACHINE

AUDIT INFORMATION

Company / Project:	**[Name Removed]**
Auditor Name:	Jeff P. Wells
Date of Audit:	**09-10-2018**
Revision:	**Rev 0.0**
Auditor Signature:	

MACHINE PHOTOS

Machine overview. Light Curtains too close. Move to safe distance or improve stopping performance of Slide table.

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Light curtain model info

Device setup

Measured distance to hazard

Device setup

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STOP TIME MEASUREMENT

Test Data				
Setup	**Distance [Inch]**	**Test #**	**Measured Stop Time [msec]**	**Stopping Distance [Inch]**
Max. Stroke Ht.	39.00	1	574.00	36.20
Min. Stroke Ht.	17.00	2	574.00	36.20
Start Point	28.00	3	566.00	35.70
		Average	571.33	36.03
		Maximum	**574.00**	**36.20**

Light Curtain (LC) Data			
Manufacturer	Banner	Minimum Object Sensitivity [In]	0.55
Mfg part #	EZ Screen	Measured Distance (LC to Hazard) [In]	16.00
		Number of Blanking Windows	0
		Blanking Window Size [In]	0.00

ANSI Calculation (per ANSI B11.2, B11.19)			
Variable	**Units**	**Units**	**Comments**
K	63	[in/sec]	Per OSHA/ANSI
Ts	574.00	[msec]	Measured, from stop time meter. From above.
Tc		[msec]	
Tr		[msec]	
Tspm	0.00	[msec]	If equipped with brake monitor, see above.
Dpf	0.93	[in.]	From above LC data.
Ds	**37.09**	**[in.]**	From edge of hazard (largest die or bolster edge)

Observations	
Safety Devices & Controls Description	Fixed Guards, Interlocked Guards (With or Without Locking Mechanism), Awareness (Safety) Signs, Emergency Stop Devices (Palm / Push Buttons or Rope / Cable Pulls), Safety Light Curtains (Screens) and Safety Single/Multiple Beam Devices
Measured Distance Comments	
Measured Minus Safety Distance	-21.09
Safety Distance Comments	Non-Compliant: Light Curtain is too close. Move Light Curtain to distance shown or improve stopping performance of the machine.

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Stop-time Measurement Legend / Reference

Stop Time Measurement Definitions	
K	Hand speed constant in inches per second. The ANSI standard value is 63 inches per second when the operator begins reaching toward the point of operation hazard from rest.
Ts	Stop time of the machine tool measured at the final control element (typically measured by stop time device)
Tc	Response time of the control system (typically measured by stop time device)
Tr	Response time of the presence sensing device (safety light curtain) and its interface, if any. This value is generally stated by the device manufacturer or it can be measured by the user.
Tspm	Additional time allowed for the brake monitor to compensate for variations in normal stopping time.
Dpf	Depth penetration factor. It is an added distance to allow for how far into the protective field an object, such as a finger or hand, can travel before being detected. D pf is related to the safety light curtain's object sensitivity. Minimum Object Sensitivity (**MOS**) is the smallest diameter object which will always be detected anywhere in the sensing field.
Ds	Minimum safety distance between the safe guarding device and the nearest point of operation hazard, in inches.
Actual Distance	Measured distance from the nearest hazard and the associated safeguarding device.
Safety Distance	The Safety Distance (Ds) as defined above.

Cell Colors:

Entered Data
Calculated Data
Calculated Data (used for set-up)

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STOP-TIME DIAGRAM