Lenoir Employee Owned Mirror Company

401 Kincaid Street PO Box 1650 Lenoir, NC 28645

www.LenoirMirror.com

Fax 1-888-835-1080 Toll Free 1-800-438-8204

Quality Manual

Checks and tests conducted within Lenoir Mirror's production processes

Action	<u>Description</u>	<u>Purpose</u>	<u>Frequency</u>
ncoming Materials:	Visual condition of tooling to	Identify notantial k	Fach container
Raw Glass	Visual - condition of trailer load	Identify potential breakage due to	Each container
		poor packaging	
	Visual - condition of package	Identify breakage or concealed	Each container
		Damage	
	Size check	Matches size stated on purchase	Each container
		order with size marked	
	Tin side check	Identify surface of glass to be	Each container
		silvered	
Silver Nitrate	Performance	Performance in process	1 unit per shipment
	Titration	Measure silver & copper coverage	3 times per day
Paint	Visual	Identify viscosity and consistency	1 drum per shipment
Acetate	Visual	Check clarity	1 container per order
Cleaners	Performance	Proper surface cleaning	1 container per order
Vheels	Performance	Insure proper edging and	Approval process
		beveling	
Coolant	Performance	Insure proper edging and beveling	Approval process
, coluit	i chemianoc	induce proper eaging and beveining	7 tpprovar process
Cerium	Performance	Insure proper cleaning and	Approval process
		beveling	
Coop Cutting:			
Breakage	Visual	Checks condition of glass pack	Each container
3-		for stability and concealed	
		damage before free fall	+
0:	T		4-4
Size	Tape measure	Checks initial cuts on each size	1st piece plus random
		for accuracy	
Surface	Visual	Checks for glass defects - chips,	Continual
		scratches, seeds, etc.	
	•	•	•
Silver Line:			
Adhesion test	Adhere and pull masking tape	Confirm necessary adhesion	1 per day
Adriesion test		Continui necessary aunesion	i per day
	from coated surface		
Nater test	Check PH & silica content	Process water must be within	1 per day
		range for plating chemistry	
Salt fog	300 hours in slat spray cabinet	verify seal of paint to chemicals	3 pieces per day
Cass	Salt fog test plus acetate	verify seal of paint to chemicals	1 per day
	Duplicates of Salt Spray & Cass	l l	1 50 50
2	done by outside Lab	1.6.1.1.1.1	00 : 4 : 4 : 4
Paint	Thickness	proper amount of paint applied	30 minute intervals
	Razor & rub test	evaluate paint cure	4 per day
Cross Hatch	Viscosity	proper viscosity assures proper	30 minute intervals
	·	paint application	
	Thickness & Adhesion		4 per day (2 locations)
	THORICOU & AMICOIOT		. ps. day (2 locations)
loot	Thermemeter	Oven point ouring	20 minuto intervalo
Heat	Thermometer	Oven paint curing profile	30 minute intervals
Offbearing	Visual - back and face	Check for blemishes on both	Continual
		surfaces of the mirror	
Tape Backing:			
	Visual	Confirm type of edge	l per order
Edge check	Visual	Confirm type of edge	l per order
Edge check	Visual Tape measure	Confirm size matches spec plus	1st piece plus random
Edge check Size verification	Tape measure	Confirm size matches spec plus check for tolerance & squareness	
Edge check Size verification		Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application	1st piece plus random
Edge check Size verification	Tape measure	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed	1st piece plus random
Edge check Size verification	Tape measure	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application	1st piece plus random
Edge check Size verification	Tape measure	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed	1st piece plus random
Edge check Size verification Tape	Tape measure Visual	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed	1st piece plus random
Fape Backing: Edge check Size verification Fape Washer/Clear Coat Applica	Tape measure Visual tion	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified	1st piece plus random Continual
Edge check Size verification Fape Washer/Clear Coat Applica	Tape measure Visual tion Compare size to production	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed	1st piece plus random
Edge check Size verification Tape Washer/Clear Coat Applica Check Ticket	Tape measure Visual tion Compare size to production ticket	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified	1st piece plus random Continual Pre-production
Edge check Size verification Tape Washer/Clear Coat Applica Check Ticket	Tape measure Visual tion Compare size to production	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified	1st piece plus random Continual
Edge check Size verification Tape Washer/Clear Coat Applica Check Ticket	Tape measure Visual tion Compare size to production ticket	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified	1st piece plus random Continual Pre-production
Edge check Size verification Fape Washer/Clear Coat Applica Check Ticket Size check	Tape measure Visual tion Compare size to production ticket Check measurements and patterns	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified Insure proper size Insure proper size	1st piece plus random Continual Pre-production Random
Edge check Size verification Tape	Tape measure Visual tion Compare size to production ticket Check measurements and	Confirm size matches spec plus check for tolerance & squareness Maintain smooth tape application Keep tape at edge or recessed as specified	1st piece plus random Continual Pre-production

Heavy Edge	Compare production tisket to	Vorify piza addaysark talaranaa	Dro production
Check Ticket	Compare production ticket to	Verify size, edgework, tolerance	Pre-production
Size check	raw glass Check measurements and	and any special requirements Insure proper size	Random
Size check	patterns	ilisure proper size	Ralluolli
Customer Template or	Check product to template or	Insure proper size	Pre-production
DFX File	other guages provided	incare proper cize	and Random
Edge check	wipe and inspect edges	Insure good quality edgework	Random
Wheel check	Check polish wheels for wear	Avoid edge quality defects	Random
		The state of the s	
Cutting			
Check Ticket	Compare production ticket to	Insure correct size	Pre-production
	raw glass		
Size check	Check measurements and	Insure correct size	Random
	patterns		
Customer Template or	Check product to template or	Insure proper size	Pre-production
DFX File	other guages provided		and Random
Skid limit	Count requirement	Weight limit on skids	Pre-production
Visual check	Inspect for surface defects and	Insure quality	Continual
	mirror quality		
Edge Fabrication			
Check Ticket	Compare production ticket to	Insure correct size and type of	Pre-production
	raw glass	fabrication	
Production Check	Check for size and proper type	Insure correct size and type of	Random - physical
<u> </u>	of fabrication	fabrication	Each piece - visual
Customer Template or	Check product to template or	Insure proper size	Pre-production
DFX File	other guages provided	la company de la	and Random
Visual check	Inspect for surface defects and	Insure quality	Continual
Misselese	mirror quality	Accidentation and the state of	Deaders
Wheel check	Check polish wheels for wear	Avoid edge quality defects	Random
Package check	Inspect skids and boxes before	Insure safe and stable package	Each container
	packaging		
Cracus			
<u>Groove</u> Check Ticket	Compare production ticket to	Incurs correct size and two of	Pre-production
Check ficket	Compare production ticket to raw glass	Insure correct size and type of fabrication	Fie-production
Verify set up	Process trial piece to be sure	Insure correct groove quality	Pre-production
Verify Set up	correct groove is cut	insure correct groove quality	r re-production
Production check	Inspect for groove quality and	Insure quality	Random - physical
1 Toddottom oneok	general quality	induit quanty	Each piece - visual
	general quality		Edon proce violati
Hole Drilling			
Check Ticket	Compare production ticket to	Insure correct size and type of	Pre-production
	raw glass	fabrication	<u> </u>
Verify set up	Process trial piece to be sure	Insure correct size and location	Pre-production
	correct hole is drilled	of hole	
Production check	Inspect for hole quality and	Insure quality	Random - physical
	general quality		Each piece - visual
<u>Bevel</u>			
Check Ticket	Compare production ticket to	Insure correct size and type of	Pre-production
	raw glass	fabrication	
Customer Template or	Check product to template or	Insure proper size	Pre-production
DFX File	other guages provided		and Random
Production check	Inspect for bevel width, mitre	Insure quality	Random - physical
	location and general quality		Each piece - visual
Pattern check	Verify production items with	Insure correct size	Random
	template or pattern	1	
lu, , a,			
Warehouse/Venetian:		lou i i i i i i i i i i i i i i i i i i i	F 40 :
Measurement	Tape measure	Check size to specification	Every 10 pieces
Visual	Identify defects	Check for chips, scratches and	Every piece
Declaration to the	Visual and Obstack	other defects	Francisco
Package test	Visual and Shake test	Insure glass is packed properly	Every piece
	•	and securely	
0	M/	Accepted a betater and the collection of the col	
Secure pallets	Wrap pallets with both tape and	Avoid shifting in shipment	Every pallet
	shrinkwrap		
Secure pallets Tape openings		Avoid shifting in shipment Protect glass from scratches	All heavy glass -
	shrinkwrap		
Tape openings	shrinkwrap		All heavy glass -
Tape openings Shipping:	shrinkwrap Close carton openings with tape	Protect glass from scratches	All heavy glass - 5/16 and thicker
Tape openings Shipping: Visual	shrinkwrap Close carton openings with tape Check condition of skids	Protect glass from scratches Stability of skid to be shipped	All heavy glass - 5/16 and thicker
Tape openings Shipping:	shrinkwrap Close carton openings with tape	Protect glass from scratches Stability of skid to be shipped Check contents and specs with	All heavy glass - 5/16 and thicker
Tape openings Shipping: Visual Cross-reference	shrinkwrap Close carton openings with tape Check condition of skids Visual	Protect glass from scratches Stability of skid to be shipped Check contents and specs with shipping documents	All heavy glass - 5/16 and thicker Each skid Each skid
Tape openings Shipping: Visual	shrinkwrap Close carton openings with tape Check condition of skids Visual Compare delivery ticket with	Protect glass from scratches Stability of skid to be shipped Check contents and specs with	All heavy glass - 5/16 and thicker
Shipping: Visual Cross-reference Cross-reference	Shrinkwrap Close carton openings with tape Check condition of skids Visual Compare delivery ticket with packing label	Protect glass from scratches Stability of skid to be shipped Check contents and specs with shipping documents Confirm proper item and spec	All heavy glass - 5/16 and thicker Each skid Each skid Each skid
Tape openings Shipping: Visual Cross-reference	shrinkwrap Close carton openings with tape Check condition of skids Visual Compare delivery ticket with	Protect glass from scratches Stability of skid to be shipped Check contents and specs with shipping documents	All heavy glass - 5/16 and thicker Each skid Each skid