

The Ultimate Eyewear QC Guide To Effectively Reduce Defects

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Introduction

Eyewear professionals need to understand the importance of quality testing eyewear before it's put on the market. Regardless if you're buying eyewear from a supplier or manufacturing your own eyewear, it's imperative that you familiarize yourself with best-in-class eyewear quality control procedures, testing and best practices. This eBook takes a look at real and current examples from PEL, including actual test results, QC reports, and outcomes. You'll gain valuable insight into what goes into the eyewear QC process, what exactly gets tested, and what you can expect from a report.

Factories in China produce excellent quality eyewear and for the most part have their quality control procedures up to international standards, but that doesn't mean that there won't ever be issues as you'll see in the conclusion of this eBook. There are numerous reasons for using a third party QC inspection company, like:

- Testing out a new manufacturer/factory
- Previous order had a high number of defects
- Lead time is crucial, and you need to make sure your order is on time
- You can't be there to do QC yourself
- Sending your staff to perform QC overseas is too expensive



Despite all these, the main reason for using a third party inspection company is to assure the eyewear order you receive meet exactly what you specified in your PO.

Regardless of how well acquainted you are with a factory and the staff you communicate with, you need to keep your finger on the pulse to assure the quality of your eyewear. This is one area in the eyewear trade you have to be proactive with and can't leave it in the hands of people not directly employed by your company.

Which begs the question - what exactly goes into an eyewear QC inspection, what is reported, how often is it reported, how responsive should your 3rd Party inspection company be? Can you do the QC testing yourself? What is included in a report?

This eBook takes you through the eyewear QC process as done by PEL. We list the wide variety of tests available for eyewear QC, according to different standards (i.e., EU or U.S.).



How Can This Ebook Help You?

The goal of this eBook is to show you how you could benefit from third-party inspection, what a QC report looks like, the different tests you can perform on your eyewear and why it's important to make sure your eyewear quality is up to standard.

Who and what is this eBook for:

- If you're manufacturing or purchasing eyewear in China, you can use this eBook to take a look at eyewear QC in more detail, what exactly to expect from a QC report, what tests are available to you, and how it can benefit your overall quality and supply chain.
- Companies that are experiencing trouble with the quality of their eyewear from China and are looking for a solution
- Experienced eyewear professionals/importers that want to step up their game to put their brand ahead of the competition by ensuring they manufacture the best possible quality eyewear.
- Anyone looking to enter into the eyewear trade or start importing from China can learn how to go about securing quality eyewear from the get-go.

Let's dive straight in and look at WHY strict Quality Control on your eyewear is crucial for success.



Why is Eyewear QC Important?

In a recent survey, more than **70% of foreign companies manufacturing eyewear in China indicated QC as their number one biggest challenge.**

Good quality eyewear manufacturing in China isn't hard to come by, considering you take the time to follow a tried-and-tested, best practice and industry standard QC process. If you choose to neglect the QC process or basic steps it could lead to:

- Eyewear being rejected by customs at port due to incorrect safety standards
- Deformities on the eyewear itself, logos that rub off or even spelling mistakes
- Lawsuits resulting from poor quality eyewear resulting in physical harm to a person etc.
- Product recall and public postings resulting in irreparable company/brand damage

Online Portals exist in all the major regions of the world to publicly warn consumer about unsafe, fake, defective or inadequate products that have entered the market, including eyewear. Like these sites in:

- 1. Australia Product Safety Australia
- 2. USA Consumer Product Safety Commission
- 3. EU European Consumers Alert System
- 4. China Defective Product Administrative Center

You do NOT want your company name to appear on any of these sites. Once your brand or company name is displayed on theses sites it's a permanent black mark on your record.





Case in Point:



In this case, Wens Bros Trading's downfall came down to something as simple as labeling, or the lack thereof, that resulted in a complete recall of an entire line of sunglasses. Sunglasses are time sensitive, season bound and often manufactured to match current fashion trends. Reordering or even relabelling would take too long, and we can assume that this recall resulted in significant financial losses which could have been easily avoided with the most basic quality inspection - visual inspection. You can read the full Wens Bros report <u>here</u>.

Which leads us to the next chapter to help you avoid similar mistakes, the Golden Sample.





Golden Sample

Establishing an Approved "Golden" Sample to Set the Quality Standard Benchmark



Obtaining eyewear samples from different suppliers is a step that some experienced importers choose to take before deciding to work with a particular supplier. Others may wait until after they've chosen a supplier to begin working on a product sample.

Regardless of when product samples are requested, obtaining and approving the so-called "golden sample" can be paramount to setting your expectations for quality and eyewear requirements.

The golden sample is an approved sample, which is the factory's attempt to manufacture a piece of eyewear as close to your requirements and specifications as possible. It's crucial that these samples are established early on to serve as a model for mass production.



An approved sample clarifies the materials and parts required for your eyewear, such as the quality of the acetate used for the frames, or the plastic or glass that will be used for the lenses.

The sample also serves as a clear standard for comparison for factory workers and any QC staff that may be inspecting the goods as they come off the production line. It's not recommended to start production without golden samples approved and safely stored away.

Reviewing and Testing Product Samples

It's almost always a good idea to review a product sample and, if necessary, have a third party laboratory test the sample for approval.

Reviewing your eyewear sample may be as simple as checking dimensions and verifying Pantone colors. But, depending on the region in the world in which you plan to distribute your eyewear, lab testing might be required to verify that the substances used are safe for the end-users.

Only you can decide which testing is required for your product. If you're unsure, a QC professional or lab such as PEL, that has experience with eyewear can tell you which tests are relevant and the estimated cost and time associated.







Handling Approved Eyewear Samples

While most experienced importers are familiar with the value of obtaining and approving an eyewear master sample, they often overlook the importance of properly handling and keeping track of them.

How you handle approved samples is important because factory staff might misplace an approved sample or confuse it with an unapproved sample. Factories have been known to deliberately tamper with approved samples to obstruct the inspection process, especially when an outside third-party is expected to perform the inspection. Factories that have something to hide don't like third party inspection companies on-site and can go to extreme lengths to tarnish the reputation of the inspection party. This is why working with an experienced partner with a proven track record is the best move you could make to ensure you get the quality you need.

The danger in someone bungling your approved eyewear sample is that defects and nonconformities can occur in the finished products when factory workers refer to the incorrect sample for production. For example, the final approved color of sunglass lenses. If the wrong sample is used to compare color, the result could be mismatching lenses for thousands of pieces of eyewear.



The other main concern with fluffing product samples is that any of the staff managing the production line could end up using the wrong sample to massproduce units, ultimately producing them according to incorrect standards. When you encounter inspection results that don't accurately represent an accurate situation at the factory, you're more likely to make a misinformed decision about whether to ship that eyewear order.



Steps You Can Take to Prevent Issues with Golden Samples

- **Firstly** you need to establish at least two or more identical samples (we would recommend up to 3 or 4). One you can send to the third party inspection team, and one to the factory to work from as a verified sample. We would recommend you take one pair and seal it with a wax seal and store it in a safe secure place, like a safe or safety deposit box. This way you have a verified sample that hasn't been tampered with to refer back to if any quality issues do arise.
- Secondly seal all the samples that are to be shipped in their own carton with a seal, this will prevent any form of tampering. You can go as far as asking for photographic verification from the factory of the intact samples once the factory receives them. This may sound a bit dramatic, but you should confidently show the manufacturer/factory that you're taking the necessary precautions to ensure top quality eyewear is produced.



• **Thirdly** sign and date your samples so there can be no doubt as to the authenticity of them. This will also be helpful if any samples are updated for the factory to establish the most recent sample to use.

Send a sample to your supplier or factory well in advance before mass production starts; this will give them time to verify your requirements and ask for any clarification as required.

Send another sample to your inspection team at least a week in advance of the anticipated inspection date. Your approved samples can help you prevent product defects and catch any that might appear in your eyewear before shipping.



Now that you know the value of a golden sample and how it can assist you moving forward, we can move on to the next important tool to add to your toolbox - The QC Checklist will equip you with:

- A substantial platform to accurately identify quality issues
- Updated reference points of samples for testing
- Material inspection processes for glass, plastics, acetates, coatings and frames
- Greater peace of mind and continued customer satisfaction
- Actionable steps for inspection and quality management



Eyewear QC Checklist

Working from an Eyewear Qc Checklist Explicitly Stating Your Quality Expectations and Requirements

An Eyewear QC checklist is one of the most valuable documents for helping you limit quality defects in your eyewear. Checklists convey product requirements to the supplier/manufacturer and inspection criteria to QC staff. Here are the key areas that an Eyewear QC Checklist should address:

- Color
- Frame Outlook
- Eye Size and Dimension
- Hinge
- Logo & Labels
- Lens
- Alignment
- Cosmetics
- Packaging



Both the workers manufacturing and the inspectors checking need these details to ensure your eyewear meets specifications. You could easily end up receiving defective or nonconforming goods if the factory has to guess your expectations (nothing should be left to speculation.)

Packaging requirements commonly include points about carton material, logos, design, assortment method etc. Aside from protecting your fragile eyewear during transit, packaging also plays a large role in determining how customers perceive the final product; the entire eyewear market thrives on aesthetics after all.

Distributors reserve the right to refuse to stock your products if the factory fails to meet their packaging requirements.





QC staff normally perform some on-site tests and checks on a product before the factory ships an order. This isn't a requirement but rather a courtesy, so don't expect it to be a thorough inspection. If your supplier or inspection staff aren't aware of your exact requirements, you can't be sure whether your eyewear will meet your safety, function or performance standards.

When stating tests and checks in your Eyewear QC checklist, be sure to include the following:

- Any equipment required testing results can be unreliable without the use of proper tools or equipment. Make sure the equipment is calibrated and that the certifications of calibration are correct and in place.
- Who will provide the testing equipment confusion can result when factory staff or inspectors don't know who is responsible for making equipment available for inspection.
- Test or check procedure different QC personnel may conduct the same tests using different methods.



Classifying defects makes it easier for you and your supplier to interpret the QC inspection results and determine whether an order meets your quality standards. QC professionals usually broadly classify eyewear defects into one of the following three types in order of severity:

- **Minor defects** unacceptable in high quantities but generally won't result in product returns.
- Major defects likely to result in product returns but don't pose a safety risk to the end-user.



• Critical defects - violate regulations or pose a threat to the safety of end-user

Since importers probably have a different tolerance for each of the three defect types above, the maximum number of defects allowed for each lot tested will also vary for each type. These different limits will impact the result of inspection and the importer's decision to accept or reject the order. By clearly separating known eyewear defects (PEL keeps a list that we update monthly) by defect type in your QC checklist, you can improve the accuracy of your inspection reports and address any issues found.



Who and what is this eBook for:



The checklist above is a basic eyewear checklist PEL designed, for the full checklist you can <u>follow this link</u>.





PEL Eyewear QC Inspection (Actual Report Example)

Exactly what you test in an eyewear inspection is largely dependent on the type of eyewear and the final destination. What follows is a detailed breakdown of the stages of inspection, and why each inspection stage is important or beneficial.



In-Process Quality Control (IPQC)

IPQC is materials/components quality in-process inspections to ensure the specification requirements fitted.

In-process QC allows you real-time updates of what is happening with the manufacturing of your eyewear. If any serious problems are found at this stage you will be able to react immediately which will allow you to prevent delays with the original lead time, or any nasty surprises like spelling mistakes of your brand name.





During Production Inspection (DUPRO)

Inspectors pick up samples from the production line or inventory during production to check whether the workflow fits the operation guidance and product quality meets the client's requirements. In addition, the factory's production capacity, internal quality control, and material control are inspected.

This ties in with in-process QC and also allows you to be reactive with solutions to any problems that might occur.

Technical Documents Inspection

Inspectors handle the inspection and filing of relevant production documents for preliminary inspection and authentication. When facing queries from state authority departments or other controversies, the files listed below can be accessed at any time:

- Testing report, authentication
- Component data table
- Illustration brochure
- Label
- Product pictures





Technical document inspection by a third party is valuable because it will save you the time and effort of sifting through all the documents in Chinese. The QC company is well equipped to handle all the documentation for you as they do this on a regular basis and know what to look for. You will receive a report in English to verify that all the relevant documentation is in place and you can simply tick the boxes.

Customized Inspection

In order to meet customers' specific inspection requirements, here at PEL we also offer customized testing services from In-Process Quality Control (IPQC), During Production Inspection (DUPRO), through to process monitoring during the entire supply chain. Custom inspections are useful due to the fact that you can single out specifically what you'd like tested, saving on cost and time.

For example, the QC testing on metal frames won't be the same as that of Acetate frames. On top of the usual durability tests performed on both these frames, metal frames will also be tested for corrosion, checking the thickness and quality of the plating on the frames to ensure the quality is up to standard. Where acetate frames will be isolated to test whether the acetate has been stored properly before production and won't damage the lenses during shipping. Once you know the components of the eyewear you'll be testing you can create a customized test to match the requirements of the eyewear's final destination, i.e. the US or EU.





Pre-Shipment Inspection (PSI)

PSI, performed when goods are 100% completed and ready for shipment, protects importers from international trade risks. Our inspectors randomly check samples of finished goods, adhering to the international statistical standard: ISO 2859-1 Finished products are confirmed in full compliance with each customer's specifications.

PSI covers product quantity, functions, safety, type, color, general appearance, size and outer packaging, etc. After inspection, customers receive an inspection report attached with particular photographs for their final decision (as illustrated in the example report below.)

Pre-shipment inspection ensures that all the aspects of your order an in place, loaded and ready to go. After the final go-ahead from the QC company you will be able to sign off on the order and finalise payment (depending on how the payment was structured) and move on to obtaining all the relevant shipping documents. If the eyewear is damaged after this point you will be able to single out the culprits with both photographic evidence of neatly loaded stock and a verified QC report, which will give you the upper hand legally in the event anything goes wrong.





Some of the Tests PEL Perform

- Filter material and Surface quality
- Transmittance Regular or Polarized
- Requirements for road use and driving
- Additional transmittance requirements for specific filter types
- Wide angle scattering
- Refractive Power
- Spherical and Astigmatic power
- Prism imbalance
- Local variations in refractive power
- Minimum robustness of filters
- Frame deformation and retention of filters
- Resistance to solar radiation Regular or Polarized
- Resistance to ignition (flammability test)
- Coverage area
- Information and Labeling
- Nickel Release
- Temporal protective for cat.4 filters
- Impact resistance filter strength 1,2 or 3
- Resistance to perspiration
- Increased endurance of sunglasses
- Resistance to abrasion
- Claimed transmittance, e.g. UV 400
- Anti-reflection treated sunglasses (AR coating)
- Optical power





Eyewear Quality Standards Around The World

Below is a table illustrating the variety of standards eyewear have to adhere to in different regions of the world. PEL perform quality control based on the final destination and the standard specified by the client. If the client is unsure of which standards to follow PEL can advise.

Eyewear related Standards	International / European Standards	Australia / New Zealand	USA National Standards	China, Canada, other standards
Spectacle frames	ISO 12870 EN ISO 12870	AS/NZS ISO 12870	ANSI Z80.3	GB/T 14214
Spectacle lenses	ISO 14889 EN ISO14889 ISO 21987 EN ISO 21987	AS/NZS ISO 14889 AS/NZS ISO 21987	ANSI Z80.1	GB/T 13511 (mounted) GB 10810.1 GB 10810.2 GB 10810.3
Reading glasses	ISO 16034 EN 14139	AS/NZS ISO 16034	ANSI Z80.31	GB 10810.1 GB/T 13511
Sunglasses	EN 1836 ISO 12312.1	AS/NZS 1067	ANSI Z80.3	QB/T 2457 China CNS 15097 Taiwan
Ski goggles	EN 174 (EN1836-1997)	-	ASTM F659	-
Eye protectors	EN 166 + EN 172 EN1731 (EN167, EN168)	AS/NZS 1337.1 1337.6 (RX use)	ANSI / ISEA Z87.1	GB/T 14866 CSA Z94.5 JIS T 8141 / 8147
Sport use Goggles	Swim Goggles BS5883 Snow Mobile EN 13178 EN1938 Motor Cycle	-	ASTM F803-14 ASTM F3077-14 ASTM F2713-14 ASTM F2812-12	JIS 7301:1992 and amendment: 2009 Swimming Goggles
Nickel release and other relevant chemical tests	ISO/TS 24348 EN12472 + EN16128	-	CPSA requirements Total Lead Total Cadmium	-



Pel Eyewear Quality Control Report Example (Original)

For the sake of this eBook, we've included a recent report from PEL. The eyewear tested was Sunglasses, Europe was the final destination, and EN ISO 12312-1:2013 was used as the quality standard, with a summary of the results at the end of the report.

P.1 General Information and Inspection Summary

INSPE		ECTION THIS DOCU	N REPORT	Client Name Inspection N	Jac lo. PL	Jackie PLI 1705006		
	SNCE 200	NON-NEGO	TIABLE	Inspector Report Date	Ma	nry ny 17, 2017	Page 1 of 11	
				Report Date		.,	rugerern	
			Defect code li	ist				
1. Fu	unction							
Code	Defect Description	Code	Defect De	scription	Code	Defect	Description	
F1	Loose (tighten) hinge	F2	Wrong temple	opening	F3	Lens not fit lens	frame / crack	
F4	Improper assembling (or alignment)	F5	Asymmetry so (endpiece/bric	ldered ige/pad arm)	F6	Gap or step and endpie	between temple ce	
F7	Wrong nose pad position	F8	Bad rimlock (o mis-position)	ffset,	F9	Missing par	ts 🚽	
F10	Lens pop-out /squeaky lens	F11	Loose temple	tip	F12	Rocking ter	nple	
2. Co	osmetics							
C1	Scratch (or Broken)	C2	Dirty (wax resi	dual / dust)	C3	QC mark	X)	
C4	Bad Surface (shrinkage, wrinkle, bubble, spot)	C5	Over polishing		C6	Distorted		
C7	Color variation / bleeding color	C8	Flash or Blurry		С9	Color peel off (lacquer peel off) / wrong color spot		
C10	Wire core oxidation	C11	Logo assembly	issue	C12	Poor epoxy		
3. A	djustment							
A1	Poor adjustment	A2	Front twisted		A3	Asymmetry	of the front	
A4	Smile (or sad) eye-shape	A5	Twisted groove		A6	High low te temple	mple / dancing	
A7	Crossed temples	A8	Temple openin big (or small)	ng angle too	A9	Arch (or tw	isted) temple	
A10	Temple-end touches lens	A11	Not match the	drawing	A12	Pantoscopi	c out of tolerance	
4. Pa	acking or marking							
P1	Unreadable marking	P2	Wrong markin	g position	P3	Incomplete marking	/ broken	
P4	Unclear printing	P5	temple markin with the drawi	ng not match	P6	Mixed style	/sku	
P7	Mess packing							
enzhe , Buik I: +86-0	n Precision Eyewear Testing & In ding A&B, No. 68 Xiaokang Road, Dak 0755-84264042Fax: +86-0755-842632	spection S ang Shangz 48E-mail: ir	ervices Co., Ltd. chong Village, Heng fo@pel-eyewear.o	ggang Town, Long omWebsite: <u>www.</u> j	gang Dis pel-eyew	strict, Shenzhen ear.com	, Guangdong, China	



P.2 PEL Integrity Declaration





P.3 Summary of Defects

SE	1	INSPECTION REPORT				Client Name Inspection No.		Jackie PLI 1705006		
SINCE	NON-NEGOTIABLE				Report Da	ite	May 1	7, 2017	Page 3 of 11	
										-
.Defects Summary				Found	Defects					
lo. Sku No.	Code	Qty (pcs)	Location	Code	Qty (pcs)	Location	Code	Qty (pcs)	Locatio	n Comment
1 A0023 E10 08	C6	1	Rim	1	1	1	1	1	1	
2 A0023 G08 61	C1	1	Temple Rim	1	1	1	1	1	/	(A)
3 A0023 E29 94	C1	1	Temple Rim	1	1	/	1	1	/	
4 A0023 K53 29	Р3	1	Temple	1	1	1	1	1	-1	
									,	
5 E A0023 E11 30	P3	1	Temple	/		7	/			
5 E A0023 E11 30	P3		Temple	/		, A		6		
5 E A0023 E11 30	P3		Temple	/		A	/	4		
5 E A0023 E11 30	P3		Temple	/		A				
5 E A0023 E11 30	P3		Temple	/		A		A		
5 E A0023 E11 30	P3		Temple							



P.4 Defect Code List

		INCO	FOTIC		Client Name Inspection No.		Jackie PLI 1705006	
		INSP	ECIIC					
	2		NON-NEGOTIABLE				Henry	0
	SINCE	SNCE Report Date				te	May 17, 2017	Page 4 of 11
				Defect code list				1 4
1. F	unction							
Code	Defect Description	1	Code	Defect Desc	ription	Code	Defect D	escription
F1	Loose (tighten) hinge		F2	Wrong temple of	pening	F3	Lens not fit fra lens	ame / crack
F4	Improper assembling (or alignment)		F5	Asymmetry solde (endpiece/bridge	ered e/pad arm)	F6	Gap or step b and endpiece	etween temple
F7	Wrong nose pad positi	on	F8	Bad rimlock (offs mis-position)	iet,	F9	Missing parts	-
F10	Lens pop-out /squeaky	lens	F11	Loose temple tip)	F12	Rocking temple	
2. C	osmetics				_			
C1	Scratch (or Broken)		C2	Dirty (wax residu	al / dust)	C3	QC mark	
C4	Bad Surface (shrinkage wrinkle, bubble, spot)	,	C5	Over polishing		C6	Distorted	
C7	Color variation / bleed	ing color	C8	Flash or Blurry		C9	Color peel off off) / wrong c	(lacquer peel olor spot
C10	Wire core oxidation		C11	Logo assembly is	sue	C12	Poor epoxy	
3. A	djustment			1 70-				
A1	Poor adjustment	×_//	A2	Front twisted	1	A3	Asymmetry of	f the front
A4	Smile (or sad) eye-shap	be	A5	Twisted groove	P	A6	High low tem temple	ple / dancing
A7	Crossed temples	20	A8	Temple opening big (or small)	angle too	A9	Arch (or twisted) temple	
A10	Temple-end touches le	ns	A11	Not match the dr	rawing	A12	Pantoscopic o	out of tolerance
4. P	acking or marking							
P1	Unreadable marking		P2	Wrong marking p	position	P3	Incomplete / I marking	broken
P4	Unclear printing		P5	temple marking with the drawing	not match	P6	Mixed style/sl	ku
P7	Mess packing					_		

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P.5 Testing Frame Size Measurements

		Client Name	Jackie PLI 1705006	
	INSPECTION REPORT	Inspection No.		
SINCE 2004	THIS DOCUMENT IS NON-NEGOTIABLE	Inspector	Henry	0
		Report Date	May 17, 2017	Page 5 of 11

III. Frame Size Measurement

Style No.	Sample size:							5 samples/sk	u
Dimension		A	1	В	DBL	Temple	eLength		
Tolerance	±0.5mm		±0.5mm		±0.5mm	±2.0mm		PASS/FAIL	Comment
Sample No.	L	R	L	R	-	L	R		
#A	54.33	54.29	50.45	50.45	20.28	135.23	135.25	PASS	
#B	54.48	54.33	50.49	50.41	20.16	135.25	135.25	PASS	
#C	54.28	54.30	50.48	50.48	20.21	135.20	135.20	PASS	
#D	54.36	54.31	50.44	50.49	20.22	135.23	135.23	PASS	
#E	54.28	54.42	50.41	50.45	20.26	135.20	135.23	PASS	
pecification	5	4.0	50).5	20	13	5.0		





P.6 Visual Inspection on Product Markings/Branding and Packaging





P.7, 8, 9 & 10 Visual Inspection on Product Markings/Branding and Packaging of Various Style Sunglasses









CE!	INSPECTION REPORT	Inspection No.	PLI 1705006	
	NON-NEGOTIABLE	Inspector	Henry	
SINC		Report Date	May 17, 2017	Page 9 of 11
Inner b	K53 29	Inner bo	Dx-Packing	
Produ	ct-Packing	Produc	t–Outlook	
			P E]	-
Product- Mar	king(Right temple)	Product- N	Marking(Left temp	ole)







P.11 Defect Photos





Resistance to Perspiration Test

			Conclusion			
<u>No.</u>	Model No.	Color Code	Resistance to Perspiration	Coating Test		
1	8981	30-03S	Fail	Fail		
2	8991	35-03	Fail	Pass		
3	8991	35-01P	Fail	Pass		
4	8991	35-04P	Fail	Pass		
5	8980A	34-01S	Pass	Pass		
6	8980A	34-03S	Fail	Pass		
7	8980A	34-02P	Fail	Pass		
8	8986B	36-03S	Pass	Pass		
9	8986B	36-04S	Pass	Pass		
10	8976C	37-02M	Fail	Pass		
11	8976C	37-01M	Fail	Pass		



Conclusion

In the case above we found that the factory did, in fact, use similar testing procedures as PEL, however, they neglected to test the complete frame. PEL performed QC tests as per ISO 12870 standards and found that the metal parts of the frames were corroding near the acetate pieces of the frame after approximately 24 hours.

Acetate, as the name suggests, is acid based and if the coatings or plating on the frames aren't of good quality (which was the case in this instance), the acid will attack the surface of the frames which will result in severely damaged eyewear, resulting in unacceptable quality unfit for retail.

In this case, PEL suggested that the frames either be re-plated with Palladium or that the client source a higher quality coating with strong anti-acid attributes to re-coat the frames. The client opted for PEL's preferred recommendation and sourced a high quality imported lacquer to re-coat the frames, ultimately saving the entire shipment of eyewear.

What to Take Away from This

The factory performed an in-house quality test for any flaws on the frames but neglected to perform a complete inspection. In all likeliness, this would have resulted in a severe loss of revenue to PEL's client if the quality issues weren't discovered in time. Which again highlights the importance of thorough third party quality inspection for eyewear.

We hope you found this eBook helpful and that it will serve you well in your eyewear endeavors in the future. Now you too can assess whether this tried-andtested eyewear QC testing framework is suitable for your products. If you are currently experiencing quality issues, it may be that implementing some of the testing described here could solve the problems, or that it becomes apparent that working with a 3rd party inspector is the way forward.

About Precision Eyewear Laboratory

Precision Eyewear Laboratory is an independent eyewear Quality Control testing laboratory in China. Our experts have been serving global eyewear manufacturing companies and brands since 2004, assuring that their products reach and exceed global quality and compliance standards.

PEL boasts with a cutting edge laboratory and expert staff who are adept in testing and assessing the following eyewear types and techniques:

- Sunglasses
- Optical Frames
- Reading glasses
- Ophthalmic lenses
- Safety glasses
- Children's eyewear
- Swimming goggles
- Ski goggles
- Hazardous substance testing
- Eyewear product material property analysis

Eyewear quality issues negatively impacting your business?

PEL's inspection experts help identify, address and solve eyewear quality issues to save you the time, effort and cost.

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