Lens vibration and shock test certification

The lenses listed in this certification were tested to either of these vibration specifications and passed. The lens did not show any change of focus or any other noticeable damage after testing. When the lens includes thumb screws or set screws for locking zoom, focus, iris, the screws must be tightened firmly. Theia also recommends using a thread locking compound for extra resistance to prolonged vibration. Operation during vibration (iris operation for instance) is not guaranteed and should be tested by the customer.

Testing was conducted by Element Materials Technology, Hillsboro, OR.
Test dates: June 2018 - Vibration/Shock Specification test 1, Vibration specification test 2
November 2022 - Shock specification test 3

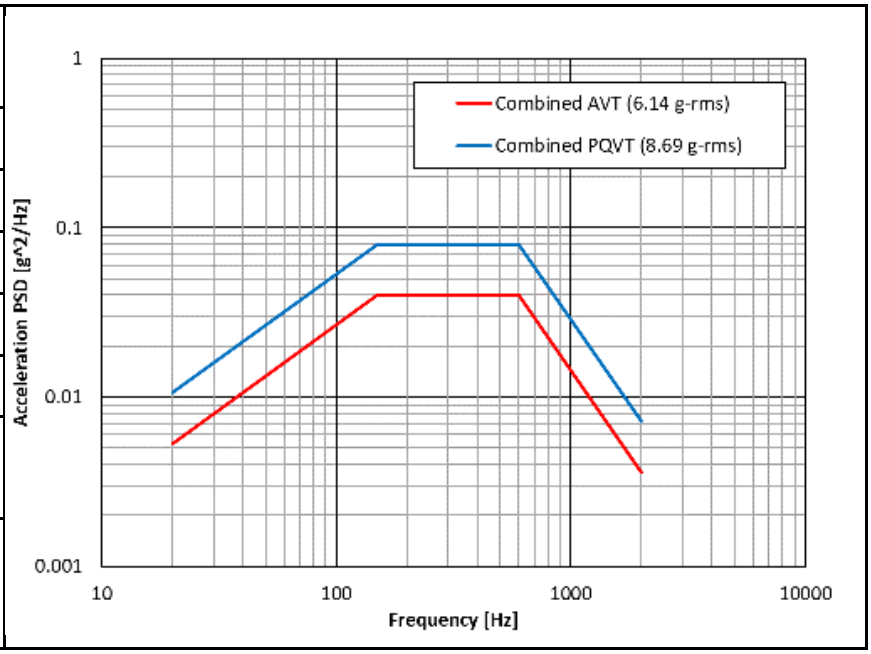
Vibration/shock specification test 1

Vibration	Sweep vibration 20Hz to 200Hz to 20Hz at acceleration 10G, 30 minutes per axis
Shock	Acceleration 38G, half amplitude 6ms, 6 times in axis perpendicular to optical axis

Vibration specification test 2

ATB PQVT

Freq [Hz]	PQVT [g^2/Hz]
20.0	0.0106
150.0	0.0800
600.0	0.0800
2000.0	0.0072
OA g-rms	8.69
Duration [min/axis]	120



Shock specification test 3

Shock	Performed 3 pulses of half-sine shock (50g, 11ms) in each of the ±Z axes.

Vibration/shock specification test 1, Vibration specification test 2, results

Lenses	Test 1	Test 2
SY125A, SY125M, MY125M, MY125M-E	Pass	Pass
SY110A, SY110M, MY110A, MY110M	Pass	Pass
SL183A, SL183M, ML183A, ML183M	Pass	Pass
TL410A, TL410P	Pass	Pass
SL410A, SL410M, ML410M	Pass[1]	Pass[1]
TY180F, TY180IR	Pass	Pass

Notes:

1. Lens operation survived the test but zoom and/or iris thumb screws loosened or were lost. With proper thread locking compound, these lenses should pass the specifications, but this has not been tested yet.

Shock specification test 3, results

Lenses	Test 3
SY125A, SY125M, MY125M, MY125M-E	Pass
ML410M, ML410A, ML410P	Pass
SL410M, SL410P, SL410A	Pass
TL410A, TL410P	Pass
MY23F	Pass

Mark Peterson
VP Advanced Technology
Theia Technologies
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