

PlexiArm X4 & X8 – Triple-Click Snap Fit Fatigue Test

Production Sample Validation

PlexiArm Validation – Introduction: Snap Fit Fatigue Test

PlexiArm X4 and X8 production samples must not exhibit the following described defects after 600 cycles of actuation:

1. Crack initiation around the spring loaded locking feature. **Crack initiation and discoloration is allowed in the green area shown in Figure 1 below*
2. Excessive play between PlexiArm and PlexiDrone's arm stub
3. Ability to insert into the incorrect arm slot



Figure 1: Crack Inspection Area (Green: Allowed Area - Red: Failed Area)

If any of the above defects are observed during inspection, the PlexiArm sample shall be declared as a "fail". If no defects are observed, the arm sample shall be declared as a "pass".

PlexiArm Validation – Test Summary

	Sample 1	Sample 2	Sample 3	Sample 4
100	Pass	Pass	Pass	Pass
200	Pass	Pass	Pass	Pass
300	Pass	Pass	Pass	Pass
400	Pass	Pass	Pass	Pass
500	Pass	Pass	Pass	Pass
600	Pass	Pass	Pass	Pass
Overall	Pass	Pass	Pass	Pass

PlexiArm Validation – *Sample 1: Pre-Test Inspection*

Pre-test Inspection Summary:

- Pre-test inspection completed
- Sample 1: PlexiArm X4 Black – LR
- Newly assembled sample with zero (0) actuation cycles
- No defects found around spring loaded locking feature



Pass

PlexiArm Validation – Sample 1: 100 Cycles Completed

Inspection Summary after 100 Cycles:

- 100 cycles completed
- No defects found around sample 1 spring loaded locking feature



Pass

PlexiArm Validation – Sample 1: 200 Cycles Completed

Inspection Summary after 200 Cycles:

- 200 cycles completed
- No defects found around sample 1 spring loaded locking feature
- Minor discoloration found on allowable area



Pass

PlexiArm Validation – Sample 1: 200 Cycles Completed

Inspection Summary after 200 Cycles:

- Matted surface shown minimal aesthetic wear



Pass

PlexiArm Validation – Sample 1: 300 Cycles Completed

Inspection Summary after 300 Cycles:

- 300 cycles completed
- No defects found around sample 1 spring loaded locking feature
- Minor discoloration found on allowable area (has not propagated after an additional 100 cycles)
- Matted texture has minimal aesthetic wear



Pass

PlexiArm Validation – Sample 1: 400 Cycles Completed

Inspection Summary after 400 Cycles:

- 400 cycles completed
- No defects found around sample 1 spring loaded locking feature
- Minor discoloration found on allowable area (has slowly propagated after the last stage)
- Matted texture wear has increased



Pass

PlexiArm Validation – Sample 1: 500 Cycles Completed

Inspection Summary after 500 Cycles:

- 500 cycles completed
- No defects found around sample 1 spring loaded locking feature
- Minor discoloration found on allowable area (appears virtually the same as previous stage)
- Matted texture wear has increased



Pass

PlexiArm Validation – Sample 1: 600 Cycles Completed

Inspection Summary after 600 Cycles:

- 600 cycles completed
- No defects found around sample 1 spring loaded locking feature
- Minor discoloration found on allowable area (has slowly propagated after the last stage)
- Matted texture wear has increased



Pass