

# PX-7 Lithography Control Plan & SPC Limits

Revision: 2.3

Date: 2025-10-08

Company: ACME Lithography Systems

Disclaimer: This is a fictional internal document created for demo purposes. Any resemblance to real products or specifications is coincidental.

# Revision History

Version	Date	Author	Summary
2.3	2025-10-08	Manufacturing Engineering	Periodic update; limits & procedures clarified.

# Table of Contents

- §1 — Overview
- §2 — Limits by Layer
- §3 — Escalation Rules
- §4 — Documentation

## §1 Overview

This control plan defines SPC limits and escalation rules for product PX-7 across critical layers.

Rational subgrouping: 3 wafers per subgroup; Western Electric rule set for alarms.

## §2 Limits by Layer

Unless otherwise stated, Dose Uniformity UCL=2.5%; Overlay UCL=3.5 nm for X and Y; BF target per layer as specified in Table 2.1.

## §3 Escalation Rules

1 point beyond UCL → Tier-1 response; 2 of 3 beyond  $2\sigma$  → Tier-1; 4 of 5 beyond  $1\sigma$  same side → review; 8 consecutive on one side of mean → review.

## §4 Documentation

All alarms must be annotated in the Calibration Report; attach raw telemetry snapshots when applicable.

# Appendices & Tables

Table A.1: PX-7 Limits by Layer (Table 2.1)

Layer	Dose UCL (%)	Overlay X UCL (nm)	Overlay Y UCL (nm)	BF Target (nm)	BF Tol (±nm)
M1	2.5	3.5	3.5	15	5
M2	2.5	3.5	3.5	14	5
V1	2.5	3.5	3.5	16	5