

# Blend Color Checker - Detailed Documentation

(For FlexChroma™ Blend Filament Series)

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## 1. Introduction

The FlexChroma™ Blend Color Checker is a dedicated evaluation model designed to visually assess how each blend ratio of FlexChroma™ Blend Filament appears in real prints.

By using a blended filament divided into **21 sequential blend-ratio segments**, generated through AMS, this tool allows you to directly observe how numerical blend ratios correspond to actual printed colors.

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## 2. Purpose of the Color Checker

This model is optimized for the following use cases:

- Visually checking **actual color differences** at each blend ratio
  - Observing color variation caused by **print-direction changes**
  - Enabling **numerical color evaluation** using the NIX MINI 3 color-measurement tool
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## 3. About the Included Data

### 3.1 Check Filament Data (Two Types)

Two filament data sets are provided, matching the two categories used in Blend Filament creation.

If you already have an approximate target blend ratio in mind, choose the data set that includes that ratio.

The blend specifications for 5%, 10%, 90%, and 95% are identical to those used in the Blend Filament series.

#### ■ Standard Version

Actual blend-ratio structure (21 stages total):

0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100%

#### ■ Detail Version

Actual blend-ratio structure:

- **Low-ratio zone (10 stages):** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10%
- **High-ratio zone (10 stages):** 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100%
- **One additional segment** connects **10% to 90%** continuously in the center.

### 3.2 Check Tower (1 Model)

This vertical tower is printed using the Check Filament and makes each blend step easy to identify.

- Notches are placed at intervals that match the blend-ratio switching heights.
- Larger notches appear at **20%, 25%, 45%, 50%, 55%, 75%, 80%** as four key marker positions.



- The side marked **“IN”** on the brim must face the loading direction.
- Remove any burrs or debris with nippers or a knife.
- Load the Check Filament **from an external spool**, not through AMS.

AMS may perform **unexpected purge operations**, even during single-color printing.

These purges can **shorten the intended segment lengths**, which reduces accuracy when evaluating the Color Checker.

External-spool loading prevents these purges and preserves the exact segment structure.

- Because startup purge amounts and line-purge amounts are not constant,  
**the actual blend-switch positions may not perfectly match the tower’s notch positions.**
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## 6. External Measurement Tools

The Blend Color Checker is optimized for **NIX MINI 3**, enabling accurate numerical color evaluation.

### • Optimized Segment Width

Each segment is designed with a width that provides sufficient measurement area for NIX MINI 3.

The notch width is matched to the measurement edge, helping prevent alignment errors.

### • Optimized Tower Width

The tower width fully covers NIX MINI 3’s sensor area, preventing measurement failures.

### • Markings on the Top Surface

The top surface includes alphabet markers corresponding to each of the four faces.

When recording results from multiple sides, these letters help you track which face was measured.



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## 7. Summary

The **Blend Color Checker** is a highly reliable tool for accurately assessing  
**how blend ratios correspond to actual printed colors** in the **FlexChroma™ Blend Filament** system.

With:

- Both **Standard** and **Detail** Check Filaments
- External-spool loading to maintain stable segment boundaries
- A structure optimized for **NIX MINI 3**

you can confidently select the blend ratio that best suits your project.

