Beauty Intelligence

Universal Shade Number (USN) v1.0

A Standard for Physical Shade Classification in Beauty

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Maintained by Beauty Intelligence

1. Purpose of the Standard

The beauty industry lacks a consistent, objective way to describe where a complexion product sits within the full spectrum of human skin tones. Shade names, undertone labels, and marketing descriptors vary widely across brands and are often subjective, inconsistent, or Context-dependent.

The Universal Shade Number (USN) standard exists to address this gap.
USN defines a neutral, physics-based reference system for classifying complexion shades based on measurable properties of the product itself. It enables consistent comparison across brands, categories, and time, independent of marketing language or consumer-facing naming Conventions.

USN is designed to answer a single foundational question:

Where does this shade sit in physical color space?

By establishing a shared reference language, USN allows downstream evaluation frameworks, audits, and decision-making tools to operate on a stable and transparent foundation.

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2. What USN Is — and What It Is Not

What USN Is

The Universal Shade Number is:

- A standardized classification system for complexion shades
- Based on physical color measurements rather than brand claims
- Deterministic and repeatable
- Brand-agnostic
- Foundational, serving as a reference layer for evaluation frameworks and analytics.

USN describes *position*, not performance.

What USN Is Not

USN is not:

- A consumer-facing shade name
- A quality rating or score
- A judgment of brand intent, values, or inclusivity
- A recommendation engine
- A replacement for brand storytelling or shade naming strategies

USN does not assess whether a brand is good or bad.

It provides a consistent way to describe what exists, not how it should be perceived.

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3. Inputs Used by the Standard

USN operates on **measurable color data** representing the physical appearance of a complexion product.

The standard is designed to ingest **CIELAB color values (L*, a*, b*)**, derived from **physical** measurement of product samples or **validated digital** equivalents that accurately represent the final applied shade.

These inputs reflect the product's observable **chromatic** behavior rather than its intended marketing position.

If two products share the same physical color properties, USN will classify them **identically** regardless of brand, price point, or label.

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4. USN Output Format

The Universal Shade Number produces a compact, **standardized identifier** that represents a shade's position in color space.

Each USN identifier encodes two independent dimensions: **depth position** and **chromatic behavior (undertone)**.

The identifier is designed to be human-readable, consistent across brands, and stable across time.

A USN identifier does not contain marketing descriptors, shade names, or category-specific labels.

Interpretive example: A USN such as **6.0O** indicates a shade positioned in the mid-to-deep portion of the depth spectrum with **orange-leaning (peach / bronze) chromatic behavior**.

USN identifiers function as **reference coordinates**, not consumer-facing names.

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5. Depth Classification Framework

USN treats depth as a **continuous physical spectrum**, reflecting the reality that human skin tone varies smoothly rather than in discrete steps.

For reporting and analysis, this spectrum is grouped into **canonical depth bands**.

The canonical depth bands defined by the USN standard are:

- Very Light
- Light
- Medium
- Tan
- Deep
- Very Deep

These bands are **fixed and versioned**, apply consistently across brands and product categories, and are used solely for **aggregation and reporting**.

Depth classification reflects **measured physical appearance**, not shade naming conventions.

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6. Undertone Classification (Chromatic Behavior)

USN undertone classification describes how color components interact **chromatically** based on physical measurement.

It is not intended to mirror or replace marketing undertone labels, which often vary in meaning between brands and regions.

USN undertone categories are designed to be **conservative, mutually exclusive, and grounded in measurable behavior**.

USN v1.0 defines the following undertone categories:

- Neutral (Low Chroma)
- Warm (Golden / Yellow-leaning)
- Warm (Peach / Bronze-leaning)
- Cool (Blue / Green-leaning)

USN undertone classification may differ from **shade names or brand labels**. This is intentional.

USN reflects measured chromatic behavior, not marketing terminology.

USN v1.0 intentionally excludes additional undertone subcategories unless they can be defined with measurable, repeatable criteria.

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7. Versioning and Stability

USN is a versioned standard designed for long-term stability.

This document defines **USN v1.0**.

USN adheres to principles of deterministic outputs, version transparency, and no silent reinterpretation.

Identical inputs will always produce identical USN classifications within the same version.

Future revisions will be clearly documented, backward-compatible where possible, and

explicitly versioned when compatibility is not feasible.

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8. Relationship to Evaluation Frameworks

USN is a **foundational classification standard**.

It is designed to serve as a reference layer for downstream frameworks that evaluate, score, or analyze product ranges.

USN itself **does not** assign scores, rank brands, assess performance, or recommend actions.

By separating classification from evaluation, the standard ensures transparency, modularity, and extensibility.

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9. Governance and Stewardship

USN is maintained and stewarded by **Beauty Intelligence**.

Governance responsibilities include:

- Maintaining versioned documentation
- Ensuring internal consistency across implementations
- Publishing updates and clarifications when required
- Preserving backward compatibility.

Governance is intentionally lightweight to preserve agility while maintaining trust in the standard's stability.

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10. Summary for Decision-Makers

The Universal Shade Number (USN) provides a **neutral, physics-based standard** for describing where complexion products sit within the spectrum of human skin tones.

In summary:

- USN defines what is **measured**, not how it is marketed.
- USN is **objective, repeatable, and brand-agnostic**.
- USN separates **classification from evaluation**.
- USN enables **fair, consistent comparison** across brands and time.
- USN provides a stable foundation for **audits, diagnostics, and scoring frameworks**.

USN exists to bring **clarity, consistency, and trust** to shade evaluation without constraining creativity or branding.