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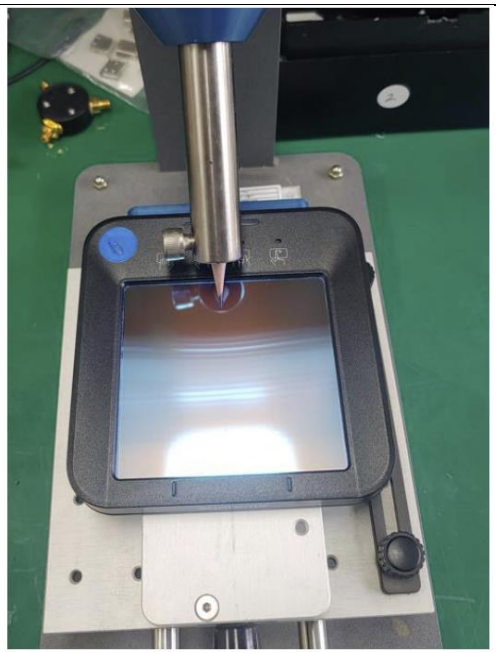
RealScan S60 Surface Hardness

RealScan S60 satisfies the 9H pencil hardness.

For a detailed explanation of pencil hardness, please refer to the Appendix on page 2-3.

- **Pencil Hardness Test: PASS**

  - Purpose : The purpose of the pencil hardness test is to assess the scratch resistance and durability of a surface or coating. It is commonly used to evaluate the hardness of paints, coatings, films, and other materials, providing insights into their ability to withstand wear, tear, and scratching under normal usage conditions.

Test Specification	- KS M ISO 15184
Test Conditions	- 45° angle with 500g load - 9H hardness pencil, repeated 3 times
Test Time	- 10 minutes
Result	**Pass**
Reviewed Content	- Check for external damage (scratches) - Verify image distortion during fingerprint capture
Attached is the test photo	

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Appendix: Pencil Hardness and Surface Durability Evaluation

The **ISO 15184:2020** standard primarily focuses on the **pencil hardness test** to measure the film hardness of paints and varnishes. The test evaluates the **strength difference** based on the ability of pencils to mark or scratch the surface of a coating. Pencils with higher hardness can withstand greater pressure without causing surface damage, allowing us to determine the surface's durability and resistance to wear.

The **pencil hardness** scale ranges from **9B** to **9H**, with higher numbers representing harder pencils. This scale helps assess the coating's resistance to damage under normal usage conditions, with a higher hardness indicating a more durable and scratch-resistant surface.

Surface Damage Types:

- **Plastic Deformation:** Permanent indentation on the paint surface without cohesive fracture, caused by the pencil's pressure.
- **Cohesive Fracture:** Visible scratch or rupture of the paint surface, where material is removed from the coating.

This evaluation helps in determining the **durability** and **hardness** of a surface by assessing how it reacts to various pencil hardness levels. A higher pencil hardness value indicates a more durable, scratch-resistant surface.

Differences in Pencil Hardness and Surface Strength-1

Pencil Hardness	Description	Surface Strength/Resistance	Possible Surface Damage
9H	Hardest	Maximum resistance to scratching; extremely durable surface	No marking or deformation
8H	Very Hard	Extremely resistant to scratches and marks	No noticeable damage
7H	Hard	Very high resistance to surface abrasion	Minimal or no surface damage
6H	Moderately Hard	Strong resistance to general wear and light scratching	Minor damage under extreme conditions
5H	Hard to Moderate	Strong, resists most light scratching	Small marks from light pressure
4H	Moderate	Moderate resistance to wear, easily scratched under pressure	Can show minor visible marks

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Differences in Pencil Hardness and Surface Strength-2

4H	Moderate	Moderate resistance to wear, easily scratched under pressure	Can show minor visible marks
3H	Slightly Harder than H	Moderate surface resistance, vulnerable to scratching	Visible scratches
H	Hard	Easily scratched, weak resistance under light pressure	Surface damage under light pressure
F	Firm	Very easily scratched, low resistance	Minor scratches, surface marks
HB	Medium Hard	Typical for general use, scratches easily	Noticeable surface damage under normal usage
B	Soft	Easily scratched, very weak surface	Surface damage with minimal pressure
2B	Softer	Very low resistance to scratches	Easily marked and damaged
3B	Softer	Extremely weak surface, prone to easy marking	Surface deformation from light pressure
4B	Softest	Very low resistance to surface wear	Immediate surface damage with minimal pressure
5B to 9B	Very Soft to	Extremely low resistance to scratches,	Severe damage or