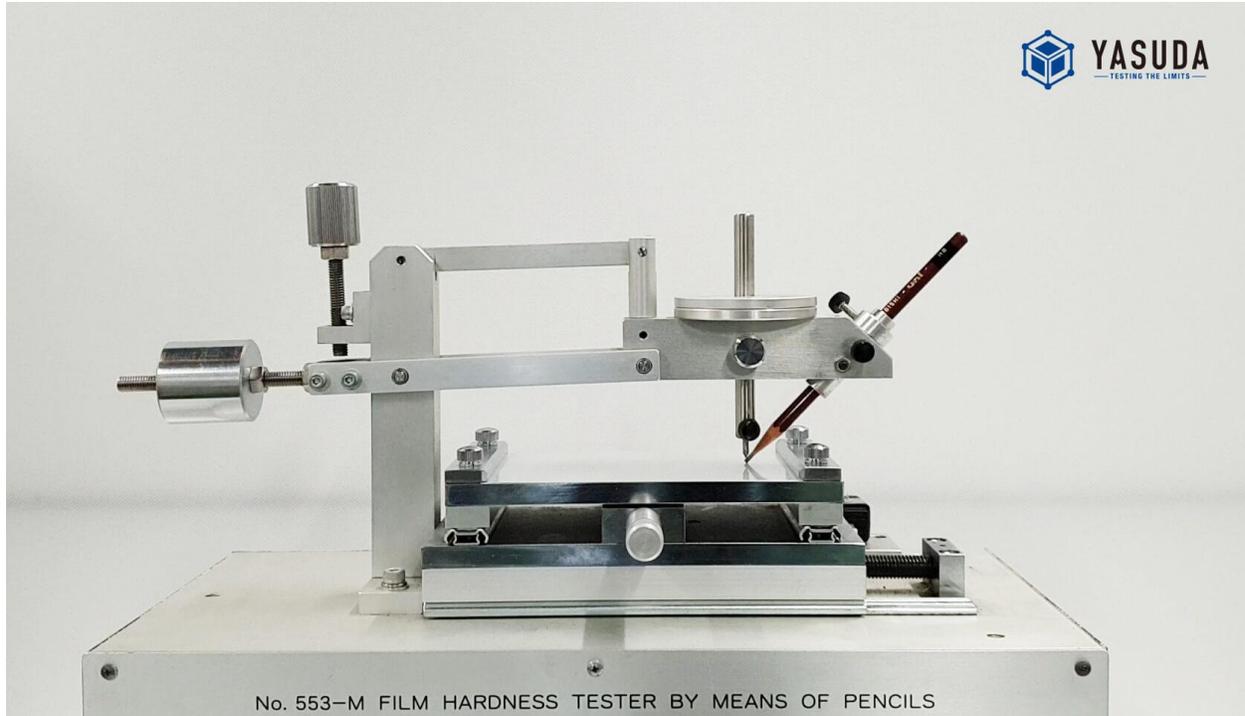




**YASUDA**  
— TESTING THE LIMITS —

**No.553 PENCIL SCRATCH  
HARDNESS TESTER [YASUDA SEIKI  
] Paint Coat Hardness, Paint Coat  
Strength, Pencil Hardness Test  
(Available for Demonstration!)**



## Contents

No.553 PENCIL SCRATCH HARDNESS TESTER (MANUAL)

No.553-S PENCIL SCRATCH HARDNESS TESTER (HAND PUSH)

No.553-M PENCIL SCRATCH HARDNESS TESTER (ELECTRIC SYSTEM)

No.553-AUTO PENCIL SCRATCH HARDNESS TESTER (FULLY AUTOMATIC)

# **No.553 PENCIL SCRATCH HARDNESS TESTER (MANUAL)**



JIS-(C3003), C3216-4, D0202, (K5400), K5600-5-4, K5651, K6894, K6902, ASTM-D2197, D3363, ISO-15184, IEC-60521-4

This tester is used to evaluate the hardness of coated film according to the testing machine method. Scratching the paint surface with a pencil attached at a 45° angle, the operator is to determine the hardest pencil that does not tear or damage the coated film. The tester can also be used to evaluate the hardness of decorative sheet and resistance to solvents on enameled wire.

## Specification

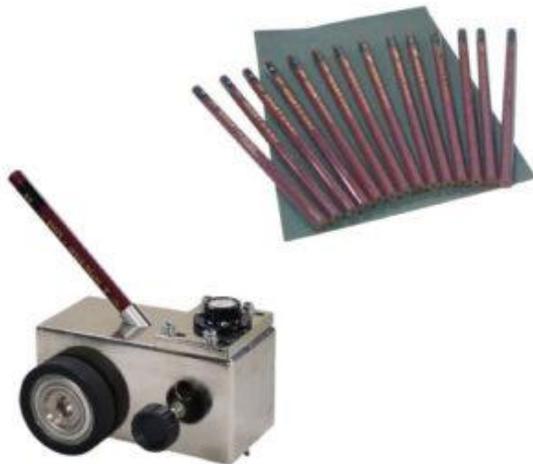
---

|              |                             |                               |
|--------------|-----------------------------|-------------------------------|
| <b>Model</b> | <b>No.553PENCIL SCRATCH</b> | <b>No.553-MPENCIL SCRATCH</b> |
|--------------|-----------------------------|-------------------------------|

|                         | <b>HARDNESS TESTER<br/>(MANUAL)</b>   | <b>HARDNESS TESTER<br/>(ELECTRIC SYSTEM)</b>  |
|-------------------------|---|---|
| <b>Specimen Base</b>    | 100 × 180 mm  | M-1 : 100 × 180 mm<br>M-2 : 150 × 180 mm  |
| <b>Stroke</b>           | Left-Right Max. 100 mm, Front-Back Max. 50 mm                                       | Left-Right Max. 100 mm, Front-Back Max. 50 mm                                       |
| <b>Scratching Angle</b> | 45° (60° for Enameled Wire)   | 45° (60° for Enameled Wire)   |
| <b>Scratching Speed</b> | Manual 1.75 mm/ 1 turn  | Motorized (Standard 0.5 to 1 mm/s)  |
| <b>Weight Load</b>      | Max. 1 kgf (Balance Weight)   | Max. 1 kgf (Balance Weight)   |
| <b>Accessories</b>      | Mitsubishi UNI Pencil (6B to 9H): Total 10 pcs, Abrasive Paper (#400), Spirit Level | Mitsubishi UNI Pencil (6B to 9H): Total 10 pcs, Abrasive Paper (#400), Spirit Level |
| <b>Option</b>           | Heating Plate Spec, Conduction Device, Needle (φ3 mm, L23 mm, Top Angle 60°)        | Heating Plate Spec, Conduction Device, Needle (φ3 mm, L23 mm, Top Angle 60°)        |
| <b>Power Source</b>     | —   | AC 100 V, 1-Phase, 3 A, 50/60 Hz  |

|  |                             |  |
|--|-----------------------------|--|
| <b>Dimensions/Weight<br/>(Approx.)</b> | W500 × D170 × H370 mm, 8 kg | M-1:W440 × D200 × H440 mm, 23 kg<br>M-2:W440 × D260 × H440 mm, 30 kg |
|--|-----------------------------|--|

## No.553-S PENCIL SCRATCH HARDNESS TESTER (HAND PUSH)



JIS-K5600-5-4

This tester is used to evaluate the hardness of the coated film with prescript pencil according to the pencil method. The tester is designed so that the pencil can scratch the testing surface at an angle of 45° and a test load of 750 g.

## Specification

---

|   | 1 Loads Spec   | 3 Loads Spec   |
|---|--|--|
| <b>Scratching Angle</b>                     | 45 ± 1°  | 45 ± 1°  |
| <b>Test Load</b>                            | 750 gf   | 500 gf、 750 gf、 1,000 gf   |
| <b>Accessories</b>                          | Mitsubishi UNI Pencil (6B to 9H):<br>Total 17 pcs,Pencil Sharpener,<br>Abrasive Paper (#1000),Wooden<br>case, additional weight (3 Loads<br>Spec only) | Mitsubishi UNI Pencil (6B to 9H):<br>Total 17 pcs,Pencil Sharpener,<br>Abrasive Paper (#1000),Wooden<br>case, additional weight (3 Loads<br>Spec only) |
| <b>Dimensions/<br/>Weight<br/>(Approx.)</b> | W116 × D83 × H128 mm, 2 kg   | W116 × D83 × H128 mm, 2 kg   |

---

## No.553-M PENCIL SCRATCH HARDNESS TESTER (ELECTRIC SYSTEM)



JIS-(C3003), C3216-4, D0202, (K5400), K5600-5-4, K5651, K6894, K6902, ASTM-D2197, D3363, ISO-15184, IEC-60521-4

Instead of moving the pencil arm manually, this model can move

automatically. We also have a double arm model, allowing for testing with 2

pencils simultaneously.

## Specification

---

|                      |  |   |
|----------------------|--|---|
| <b>Model</b>         | <b>No.553PENCIL SCRATCH<br/>HARDNESS TESTER<br/>(MANUAL)</b> | <b>No.553-MPENCIL SCRATCH<br/>HARDNESS TESTER<br/>(ELECTRIC SYSTEM)</b> |
| <b>Specimen Base</b> | 100 × 180 mm   | M-1 : 100 × 180 mm<br>M-2 :   |

|                                    |   |   |
|------------------------------------|---|---|
|                                    |   | 150 × 180 mm  |
| <b>Stroke</b>                      | Left-Right Max. 100 mm, Front-Back Max. 50 mm                                       | Left-Right Max. 100 mm, Front-Back Max. 50 mm                                       |
| <b>Scratching Angle</b>            | 45° (60° for Enameled Wire)   | 45° (60° for Enameled Wire)   |
| <b>Scratching Speed</b>            | Manual 1.75 mm/ 1 turn  | Motorized (Standard 0.5 to 1 mm/s)  |
| <b>Weight Load</b>                 | Max. 1 kgf (Balance Weight)   | Max. 1 kgf (Balance Weight)   |
| <b>Accessories</b>                 | Mitsubishi UNI Pencil (6B to 9H): Total 10 pcs, Abrasive Paper (#400), Spirit Level | Mitsubishi UNI Pencil (6B to 9H): Total 10 pcs, Abrasive Paper (#400), Spirit Level |
| <b>Option</b>                      | Heating Plate Spec, Conduction Device, Needle (φ3 mm, L23 mm, Top Angle 60°)        | Heating Plate Spec, Conduction Device, Needle (φ3 mm, L23 mm, Top Angle 60°)        |
| <b>Power Source</b>                | —   | AC 100 V, 1-Phase, 3 A, 50/60 Hz  |
| <b>Dimensions/Weight (Approx.)</b> | W500 × D170 × H370 mm, 8 kg   | M-1:W440 × D200 × H440 mm, 23 kg<br>M-2:W440 × D260 × H440 mm, 30 kg                |

## No.553-AUTO PENCIL SCRATCH HARDNESS TESTER (FULLY AUTOMATIC)



JIS-(C3003), C3216-4, D0202, (K5400), K5600-5-4, K5651, K6894, K6902, ASTM-D2197, D3363, ISO-15184, IEC-60851-4

This tester is used to evaluate the hardness of the coated film according to the testing machine method. Scratching the paint surface with a pencil attached at a 45° angle, the operator is to determine the hardest pencil that does not tear or damage the coated film. The tester can also be used to evaluate the hardness of decorative sheet and resistance to solvents on enameled wire.

## Specification

---

|   |  |
|---|--|
| <b>Hangings</b>                         | 2 Hangings   |
| <b>Test Specimens</b>                   | 80 pcs (2 scratch lines on one plate)  |
| <b>Stroke</b>                           | Max. 60 mm (One line can be divided into three single parts)<br>(Option: 5 Divided Parts)  |
| <b>Scratching Angle</b>                 | 45° (60° for Enameled Wire)  |
| <b>Scratching Speed</b>                 | Motorized (Standard 0.5 to 1 mm/s)   |
| <b>Weight Load</b>                      | Max. 1 kgf (Balance Weight)  |
| <b>Automatic Device</b>                 | Automotive Specimen Base Setting Device, Automatic Pencil Rotation Device, Automatic Pencil Sharpening Device, Automatic Pencil Height Correction Device |
| <b>Power Source</b>                     | AC 100 V, 1-Phase, 15 A, 50/60 Hz  |
| <b>Dimensions/<br/>Weight (Approx.)</b> | W1,250 × D750 × H1,480 mm, 250 kg  |