

Peel test series

IMADA CO., LTD Optional attachment P45-50N



45 degree peeling fixture P45-50N

It is fit for peeling test of packaging film especially in food or medical industries. It can start peeling with angle 45 degree, which is nearly practical condition. It can conduct a test easily in accordance with JIS[Japanese Industry Standard].



[Feature]

| Able to measure various sizes of containers | According to JIS |
|---|--|
| Sample size should be | Possible to measure in accordance with JIS:S0022 |
| height:10-100mm, diameter:20-140mm. | [Policy for the elderly and handicapped |
| We provide made-to-order attachment only for your sample, so please contact us for design change. | -Packaging/container-How to test open-easiness.] |

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[Recommended testing system]

FORCE MEASUREMENT

IMADA CO., LTD **Optional attachment P45-50N**

| Combina | ation Example |
|--|---|
| Force control cable [CB-704] | [Option Added |
| Digital force gauge [ZP-50N] | Sample's height: higher than 70mm Sample's |
| 45 degree film | height: lower than 70mm |
| peeling test fixture [P45-50N] | -L: long str -V600: spec (When capac |
| Motorized test stand (long stroke / special speed range version) [MX2-500N-L-V600] | ※ This The |

ption Added Models]

| | According to JIS | Not according to JIS |
|---|------------------|------------------------|
| Sample's height: higher than 70mm | MX2-500N-L-V600 | MX2-500N-L |
| Sample's height: lower than 70mm | MX2-500N-V600 | MX2-500N (Standard) |

-L: long stroke (200mm extended) option

-V600: special speed range (20-600mm/min) option (When the option is added, the maximum capacity will be down to 250N.)

X This application is just one of the examples. There could be non-measurable samples.

| | 45 degree film peeling | Degital force | Motorized test | Force control | Graph drawing |
|--|------------------------|----------------|--------------------|---------------|---------------|
| | test fixture | | stand | cable | software |
| | [P45-50N] | [ZP series] *1 | [MX2-500N-V600] *3 | CB-704 | ZP-Recorder |
| Data managing with software | | · main | | | |
| | | [DS2 series] | [MX2-500N]*3 | | |
| How to Test 1 In accodance with JIS:S0022 | | 10 m | | | - |

*1 We recommend digital force gauge since it is more fit for impact test in 45 degree film peeling test

*2 We recommend CB-704 since function of overload prevention works with it connected to a test stand.

*3 We recommend MX2 series since it can set up moving speed. It is necessary to add options when you would like to do measurement according to JIS or your sample height is over 70mm. Please refer to [Option Added Models] in the table about models with option.

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[Test example]



IMADA CO., LTD Optional attachment P45-50N



[Specifications]

| | Capacity | 50N | |
|--------------|-----------------------|---|--|
| P45-50N | Maximum sample size | Height: 10-100mm Diameter: 20-140mm | |
| F40-00IN | Available force gauge | ZP, Z2, DS2 series | |
| | Available test stand | MX-500N, 1000N, MX2-500N, 1000N, HV-1000N | |
| Comula min | Weight | Approx. 10g | |
| Sample grip | Maximum opening width | Approx. 300mm | |
| Table Weight | | Approx. 1500g | |

*Peeling length differs depending on samples

[Related products]

| 90 degree peeling fixture P90-200N | Food rheology tester FRT-5N/50N/100N | Fixture for film sticking test TKS-250N/TKS-20N |
|---|---|--|
| 90 degree peeling test of tape with P90-200N | Able to measure texture such as stiffness, elasticity, viscosity and so on. | Sticking strength test of film with TKS-250N |
| | | |

*Force gauges, test stands, optional attachments are sold separately.

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IMADA CO., LTD Optional attachment P45-50N





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Slide table for 90 degrees adhesion test P90-200N

Best for peeling test at 90 degrees. Two types of model are available.

- 1. Standard Type (JIS): P90-200N
- 2. Economy Type: P90-200N-EZ

P90-200N



[Meets the standard JIS] Enable to peel the sample, keeping 90 degrees. Good for more accurate measurement.



[Best for elastic samples] The table does not necessarily keep sample 90 degrees, but it is economy. May not appropriate for the measurement of under 0.4N or with sudden force change.

| Feature 1 | Feature 2 | Feature 3 |
|---|-------------------------------------|---|
| Keeps 90 degrees | Meets JIS | For various samples |
| The string keeps the peeled sample 90 | It partly meets Japanese Industrial | Not necessarily need to stick the sample on |
| degrees, connecting the slide table and | Standards, JIS C5016:1994 and | the plate of the slide table. Sample sealed |
| a force gauge. | Z0237:2000. | on other plate can be set on the slide table. |
| [P90-200N Only] | [P90-200N Only] | *The thickness of plate should be within |
| | | 2mm |

| | Composition example | | | | | |
|--|---|---------------------|--|----------------------------|--|-------------|
| Slide ta degrees a | ce gauge series | *Th | Aotorized test stand MX2 series is is Long stroke model 'ilm grips FC-21U *Some samples PC is not inclu | of certain material / sh | Software for gr drawing Force Record Standard | ler |
| | Slide table for peeling at 90 degrees | Digital force gauge | Software for graph drawing | Cable for force control | Motorized test stand | Film grips |
| Case 1 [Standard measurement] To analyze the whole measurement by drawing graphs. | [P90-200N] | [ZT Series] *1 | [Force Recorder Standard] | [CB-518] *2 | [MX2-500N] *3, *4 | [FC Series] |
| Case 2 [Economy measurement] To have peak force only. | [P90-200N-EZ] | [DS2 Series] *1 | [N/A] | [N/A] | | |

*1. It is appropriate to use Digital Force Gauge for adhesion test. 90 degrees cannot be kept with mechanical force gauge because of its structure.

*2. We suggest use cables to avoid over load. (Available only with ZT series)

*3. It is appropriate to use Motorized Test Stand for adhesion test. We especially recommend use MX2 series with which test speed can be set.

*4. A test stand with longer stroke is available if the test sample is too long to use normal stroke.

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| Measurement example | | | |
|--------------------------------------|--------------------------------------|-------------------------------|--|
| Peeling of plastic tape | Peeling of PCB | Peeling of elastic tape | |
| (with P90-200N) | (with P90-200N) | (with P90-200N-EZ) | |
| | | | |
| Measurement meeting JIS Z0237 partly | Measurement meeting JIS C5016 partly | Measurement of elastic sample | |

*Digital force gauges, test stand, film grips are not included to P90-200N/P90-200N-EZ.

| Specifications | | | | |
|--------------------|--|-------------|--|--|
| Model | P90-200N | P90-200N-EZ | | |
| Length (sample) | 155mm (max.) | | | |
| Width (sample) | 80mm (max.) | | | |
| Capacity | 0 to 200N 0.4 to 200N | | | |
| Dimensions | See page 4 | | | |
| Weight | Approx 2kg | | | |
| Fixable test stand | MX-500N, MX2-500N, MX-1000N, MX2-1000N | | | |

* Please contact us in case using with other models of test stand.

| Ор | tion |
|--|--|
| Weight roller APR-97 (Meets JIS Z0237:2000) | Spare stainless panel SSP-1608 |
| | |
| It helps to stick samples on the panel with stable force, which leads stable measurement result. (Meets JIS Z0237:2000) | Needles to take off and wash the panel every measurement, if you have spare panel. It helps save time and work. |





Please feel free to contact us (info@forcegauge.net / +81-(0)532-33-3288) for more detail of products above, design change, and so on.

| | Related products | | | | |
|---------------------------------|--------------------------------|-----------------------------------|--|--|--|
| 180 degree peeling fixture | Fixture for film sticking test | 180 degree peeling tester | | | |
| P180-200N | TKS-250N/TKS-20N | IPT200-5N/20N/50N | | | |
| 180 degree peeling test of tape | Sticking strength test of film | Exclusive for peeling test | | | |
| with P180-200N | with TKS-250N | Easy to handle and set up samples | | | |
| | | | | | |

 $\ensuremath{^*\mathrm{Force}}$ gauges, test stands, optional attachments are sold separately.

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[Dimensions]

[P90-200N]





[Caution]

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180 degrees peeling table P180-200N

Best for peeling test at 180 degrees.

- 1. Suitable for 180 degrees peeling test
- 2. For peeling measurement according to standard (JIS)



| Feature 1 | Feature 2 | Feature 3 |
|---|---|---|
| Simple test of 180 degree | Adjustable peeling angle | Meets JIS |
| Peeling | | |
| Suitable for various materials of 180 | Set table position (in front and back) to | It meets Japanese Industrial Standards, |
| degree peeling test because of its simple | adjust peeling angle easily. | JIS Z0237:2000 partly. |
| and easy operation. | | |
| | | |
| | | |
| | | |





| Test ez | xample |
|-----------------|-----------------|
| Peeling test of | of plastic tape |
| | 180 degree |

| Specifications | | |
|-----------------------|---|--|
| Model | P180-200N | |
| Peeling length | 150mm at maximum | |
| Sample width | 40mm | |
| Capacity | $0.5 \sim 200 { m N}$ | |
| Dimensions | Refer to dimensions | |
| Weight | Approx.300g | |
| Test stands available | MX-500N-L, MX2-500N-L, MX-1000N-L, MX2-1000N-L, EMX-1000N-L | |

* Contact us in case using with other models of test stand.

* Special adapter is required to fix EMX-1000N-L

* Force gauges, test stands, optional attachments are sold separately.

| Peeling length | | |
|------------------------------|--------------------------------------|--|
| Test stands Peeling length D | | |
| MX2-500N-L | Approx. 7mm | |
| MX2-1000N-L | 15mm (Full length of peeling table) | |
| EMX-1000N-L | 150mm (Full length of peeling table) | |
| MX-500N-L | Approx. 120mm | |
| MX-1000N-L | 15mm (Full length of peeling table) | |







| Option | | |
|---|---|--|
| Weight roller APR-97 (Meets JIS Z0237:2000) | Spare stainless panel SSP-1608 | |
| | | |
| It helps to stick samples on the panel with stable force, which leads stable measurement result. (Meets JIS Z0237) | Needless to take off and wash the panel after every measurements, if you have spare panel. It helps save time and work. | |

| | Related products | | | |
|--------------------------------|--------------------------------|-----------------------------------|--|--|
| 90 degree peeling fixture | Fixture for film sticking test | 180 degree peeling tester | | |
| P90-200N | TKS-250N/TKS-20N | IPT200-5N/20N/50N | | |
| 90 degree peeling test of tape | Sticking strength test of film | Exclusive for peeling test | | |
| with P90-200N | with TKS-250N | Easy to handle and set up samples | | |
| | | | | |

*Force gauges, test stands, optional attachments are sold separately.



FORCE MEASUREMENT

[Dimensions]



| A | +20mm | To set position A' |
|---|-------|--------------------|
| B | -20mm | To set position B' |

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It enables to bond a sample at a regular pressure, so that you can measure peel force more precisely.





Coating surface peeling test attachment

Stick peeling head to coated surface with glue and you can test peeling strength to pull off the peeling head.





Using image

[Features]

| Easy attach by insert pin | Based on Japanese standard |
|---------------------------|---|
| | JIS K 5600-5-7(1999) : Testing methods for paints – Part 5 : Mechanical property of film – Section 7 : Adhesion test (Pull-off methods) |

[Recommended testing system]

| | Attachment | Force gauge | Test Stand | Cable |
|--|------------|--|------------|--------|
| 1000N capacity | TH-1000N | ZTA(ZTS)-1000N | MX2-1000N | CB-518 |
| 5000N capacity | TH-5000N | ZTA(ZTS)-5000N | MX-5000N-E | CB-508 |
| Product images * The shape is differ according to the product and range. | | A REAL PROPERTY AND A REAL | | |

*With the testing system above, it stops operation before force over capacity is added to prevent sensor break-down. (We cannot assure the perfect prevention against sensor break-down.)

*Please select the appropriate ranges of force gauges and test stands.

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| TH-5000N | |
|------------------|--|
| 5000N | |
| 20mm round shape | |
| pprox. 195g | |

| | Capacity | 1000N | 5000N |
|-------------------|--------------|-----------------------------|-----------------------------|
| I I | Head shape | Diameter 20mm round shape | Diameter 20mm round shape |
| Upper attachment | Weight | Approx. 90g | Approx. 195g |
| | Fixing screw | M6 | M10 |
| Bottom attachment | Center hall | Diameter 30mm | Diameter 30mm |
| ٨ | | Upper and bottom attachment | Upper and bottom attachment |
| Accessories | | Spare peeling heads (4pcs) | Spare peeling heads (4pcs) |

TH-1000N

* Fixing glue is not included. (Suitable glues are cyanoacrylate, two-component solventless epoxide, and peroxide-catalised polyester.)

[Spare parts] You can purchase only peeling heads as spare parts.

| Model | Includes | Picture |
|---------|--|---------|
| TH6-20 | 5 pcs of peeling heads (for TH-1000N: Fixing screw M6) | |
| TH10-20 | 5 pcs of peeling heads (for TH-5000N: Fixing screw M10) | |
| [D· ·] | | 00N |

[Dimensions]

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TH-1000N









(Unit: mm) 2/22014/3/25

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Optional attachment TKS series

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[Specifications]

