



NITTO DENKO

PRODUCT INFORMATION

1

Ref. No.

No.501F - 26 - 11/93

NITTO DOUBLE - COATED ADHESIVE TAPE No.501F

1. Outline

NITTO double - coated adhesive tape No.501F is made by uniformly impregnating flexible non - woven fabric with our pressure - sensitive adhesive. The tape provides various excellent properties.

2. Construction

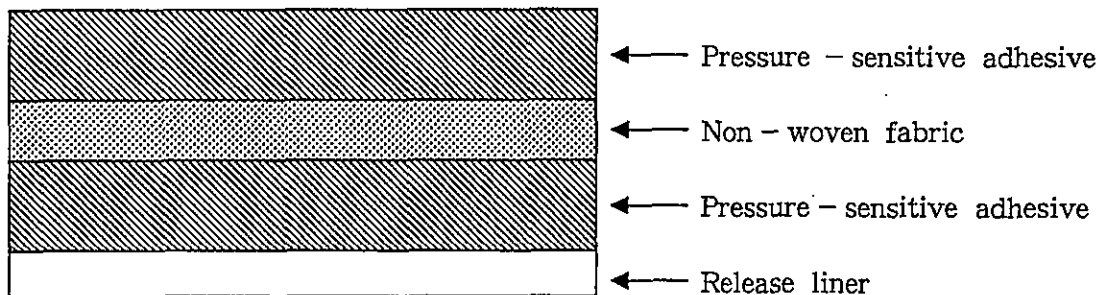


Figure 1



NITTO DENKO CORPORATION

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3. Features

- (1) High adhesive strength to various substrates.
- (2) Excellent durability. With high resistance to weather, oil and heat, the tape provides stable adhesive strength over a long time of use, maintaining high repulsion resistance.
- (3) The tape has been designed to ensure stable adhesive strength over a broad range of temperatures after application, and to allow easy handling.

4. Applications

- (1) General uses for bonding.
- (2) Splicing papers or films.
- (3) Fixing plastic nameplates.
- (4) Temporarily fixing small parts

5. Standard sizes

* For other sizes, please contact us.

Table 1

Tape thickness (mm)	Release liner thickness (mm)	Width (mm)	Length (m)
0.16	0.07	3, 5, 10, 15, 20, 25, 30, 50, 100, 400	20, 50

6. Properties

6.1 Adhesive strength to various substrates

- (1) Testing method : 180° peel strength
- (2) Application temperature : 20 °C
- (3) Measuring temperature : 20 °C
- (4) Peeling rate : 300 mm/min.

Table 2

(Unit : g/20mm)

Substrates		No.501F
Acrylic plate		1930
Hard PVC plate		1770
ABS plate		1680
Polypropylene plate		640
Stainless steel plate		800
Aluminum plate		810
Plywood		600
Foams	Polyethylene (expansion ratio : 30)	310
	Neoprene	180
	Ester urethane	110
	Ether urethane	50

6.2 Changes in adhesive strength with temperature

- (1) Testing method : 180° peel strength.
- (2) Substrate : Stainless steel plate
(conforming to JIS - Z - 1528 - 6 - 7 - 2)
- (3) Application temperature : 20°C.
- (4) Peeling rate : 300 mm/min.

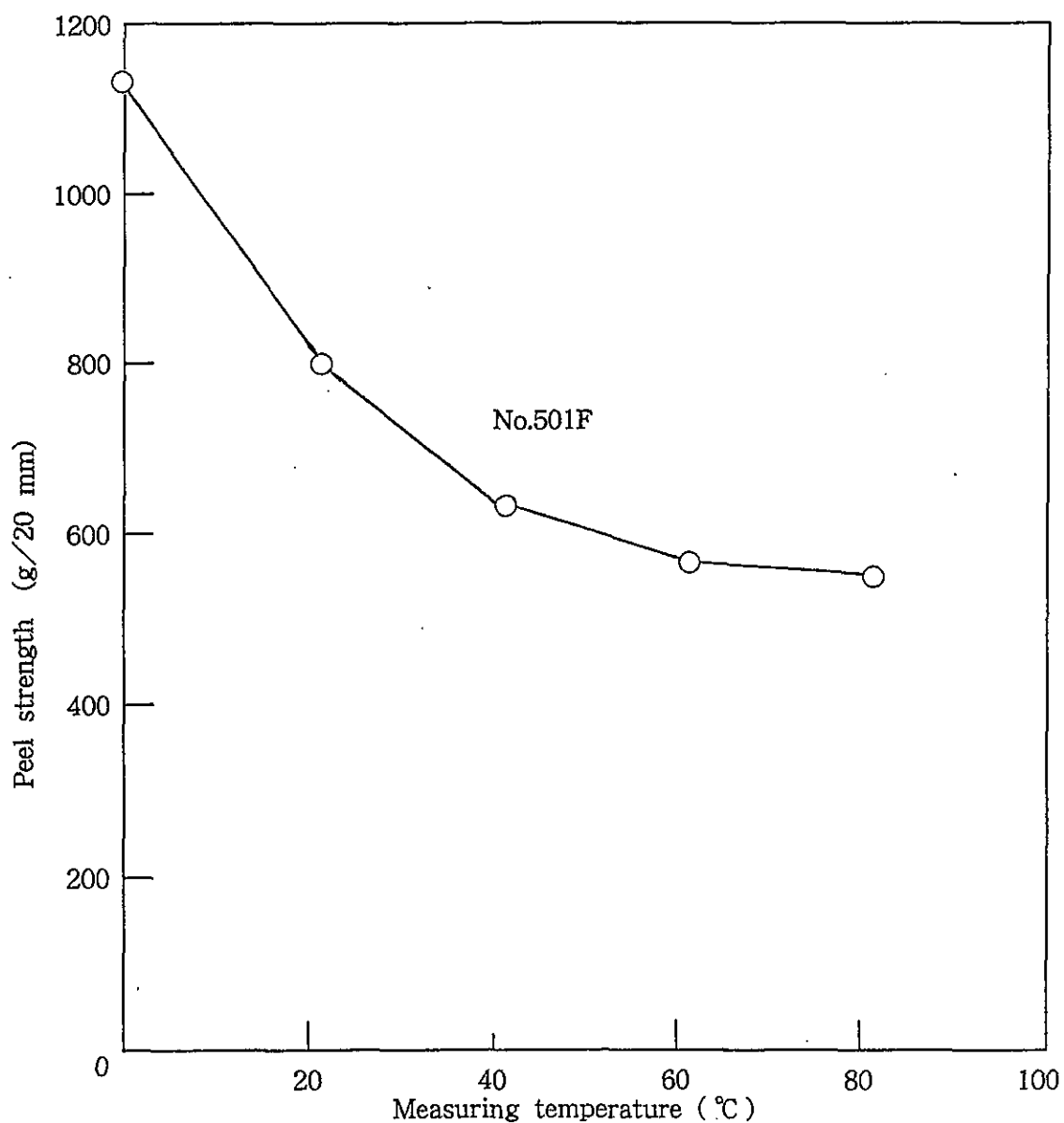


Figure 2: Changes in adhesive strength with temperature

6.3 Changes in shear strength with temperature

- (1) Testing method : Shear strength
- (2) Substrate : Stainless steel plate
(conforming to JIS - Z - 1528 - 6 - 7 - 2)
- (3) Peeling rate : 200 mm/min.

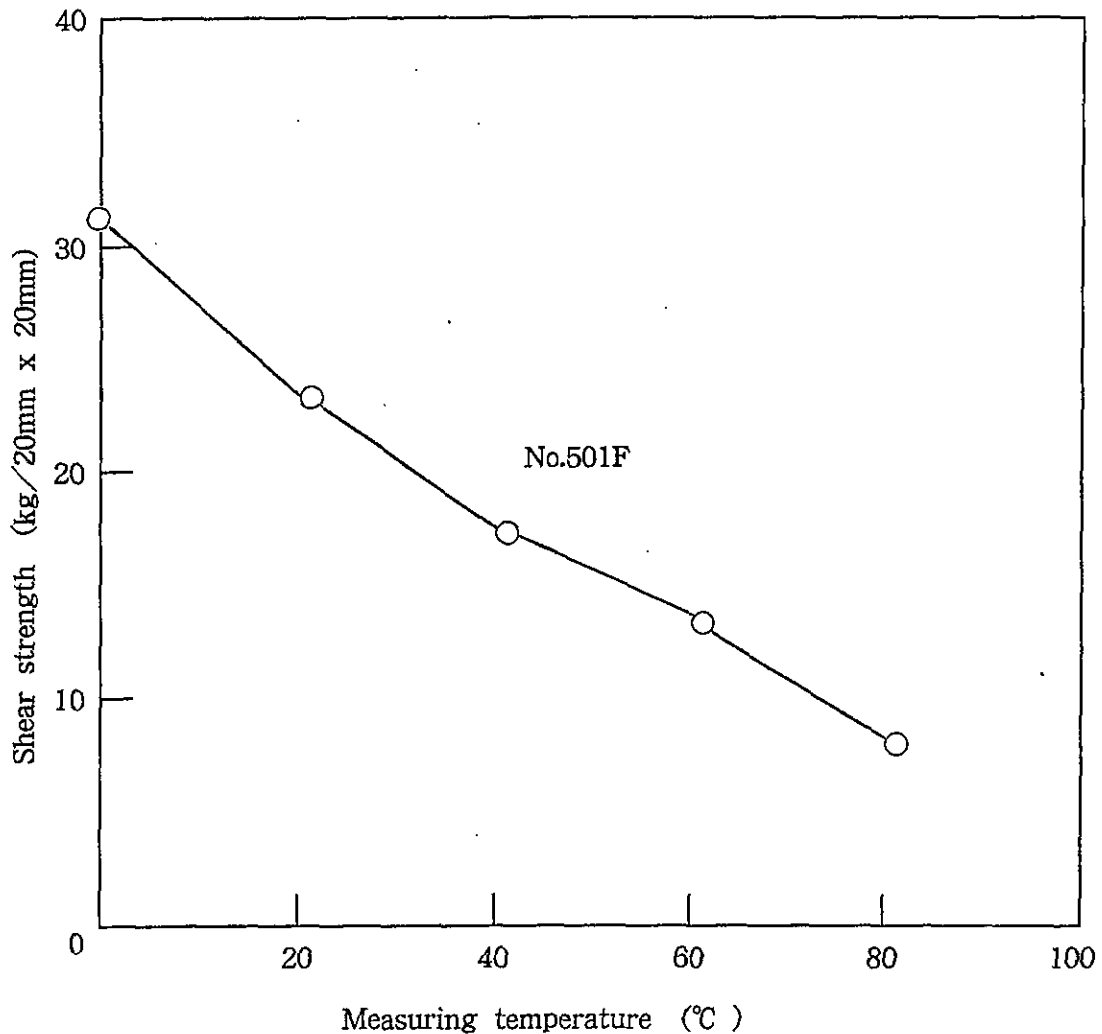


Figure 3 : Changes in shear strength with temperature

6.4 Initial adhesive strength

- (1) Testing method : Probe tack (ASTM - D2979)
- (2) Substrate : Stainless steel (ϕ 5 mm)
- (3) Pressing time, pressure : 0.1 second, 25 μ
- (4) Pulling rate : 100 mm/sec.

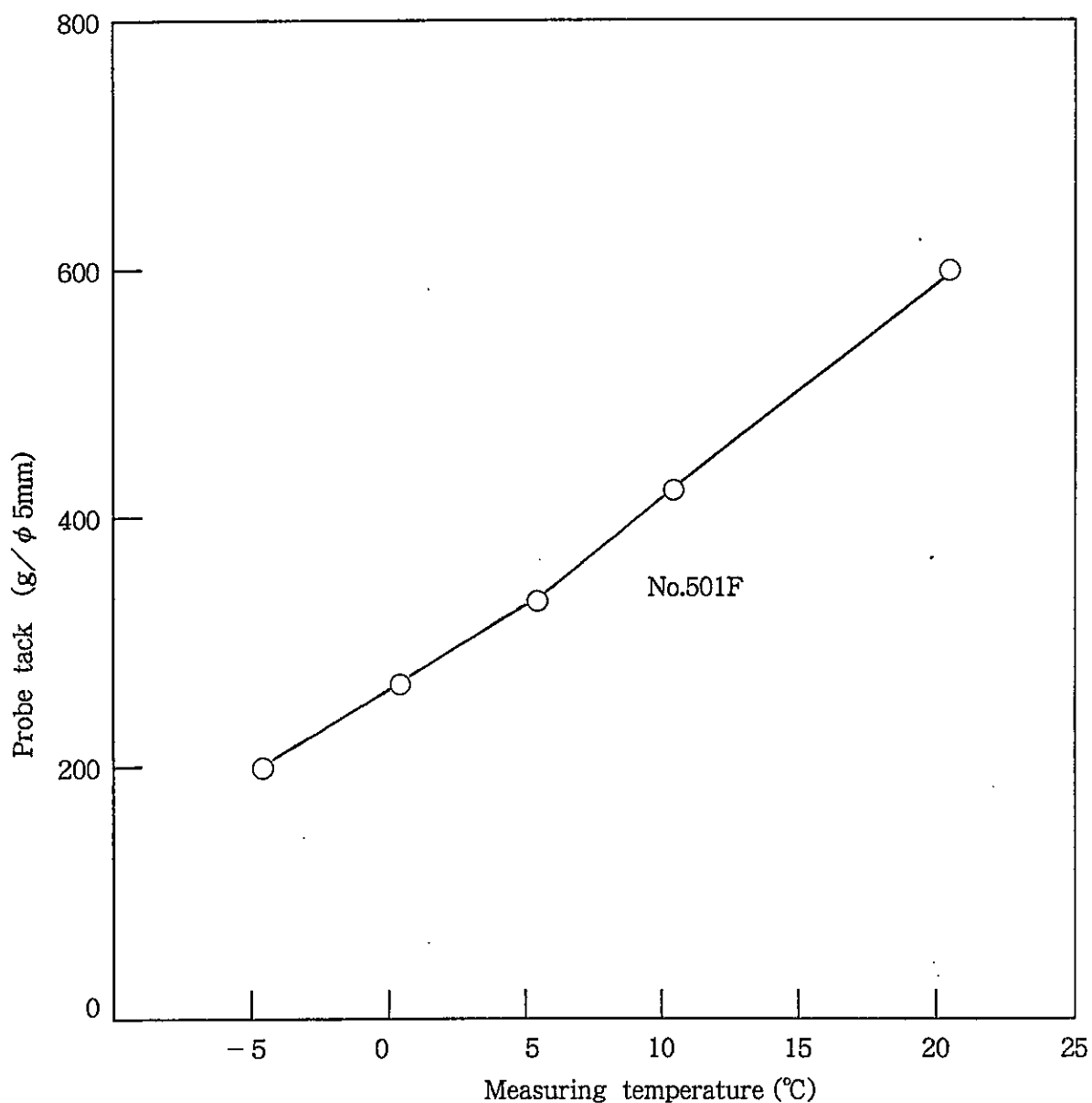


Figure 4 : Initial adhesive strength

6.5 Repulsion

- (1) Testing method : Repulsion resistance at bent part.
- (2) Substrate : 0.27 mm ABS sheet + aluminum plate
- (3) Measuring temperature : After leaving specimen at 20°C for 24 hours ; after 10 cycles of changing temperature from -10°C to 60°C.
- (4) Measuring method : As shown in figure 5, leave specimens with bent part of different length under specified conditions. After that, check lifting of ABS sheet.

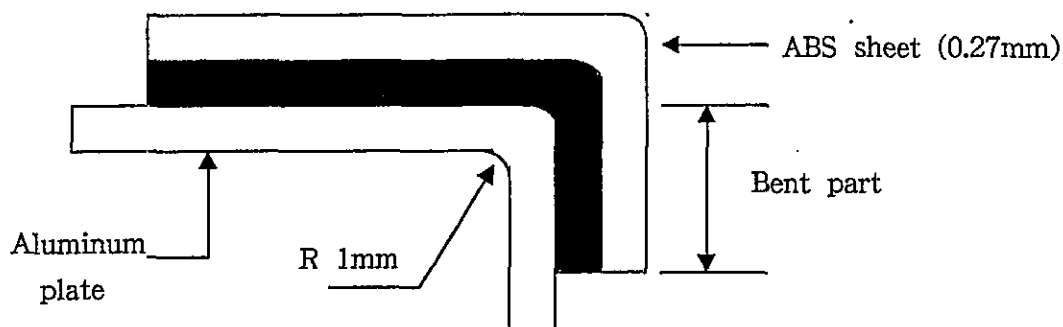


Figure 5 : Repulsion testing method

Table 3

Testing conditions	Length of bent part (mm)	Measurements
20°C x 24 hours	5	△
	10	○
	15	○
10 cycles of -10°C ~ 60°C	5	△
	10	○
	15	○

○ : No lifting

△ : Slight lifting

X : ABS sheet peeling.

6.6 Changes in shear strength with time

- (1) Testing method : Shear strength
- (2) Substrate : Aluminum plate
- (3) Measuring temperature : 20°C
- (4) Pulling rate : 10 mm/min.
- (5) Conditions for specimen being left : 40°C x 92 % RH, 80°C.

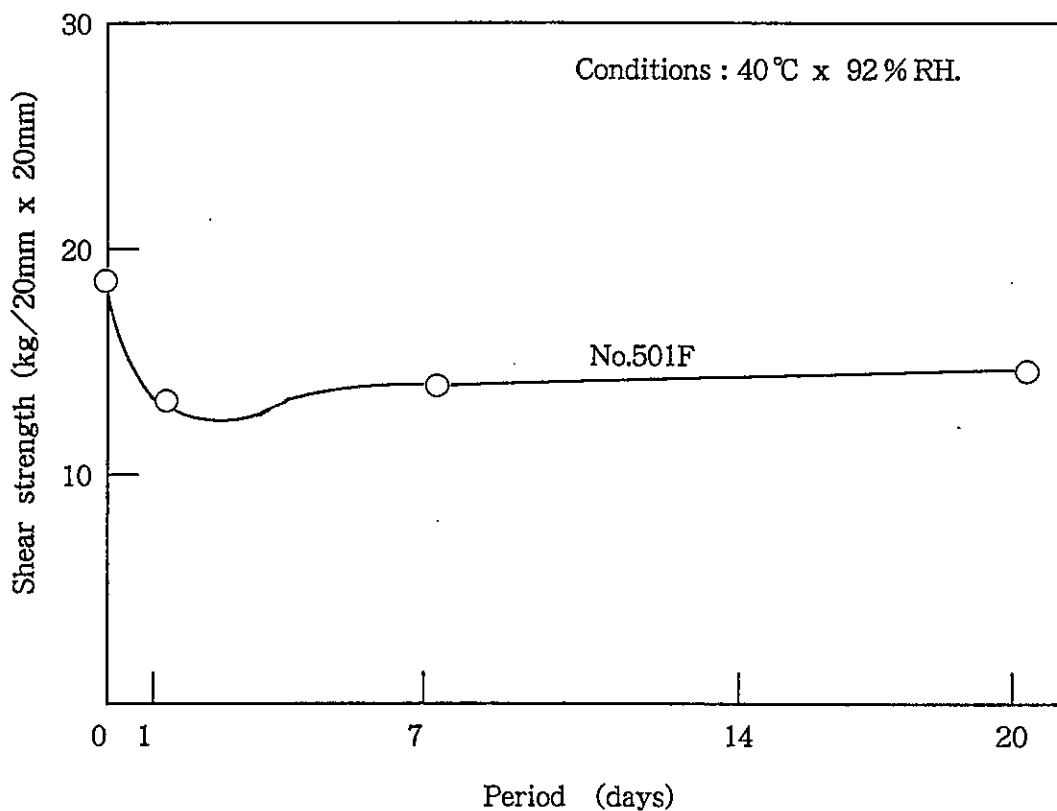


Figure 6 : Changes in shear strength with time at high humidity

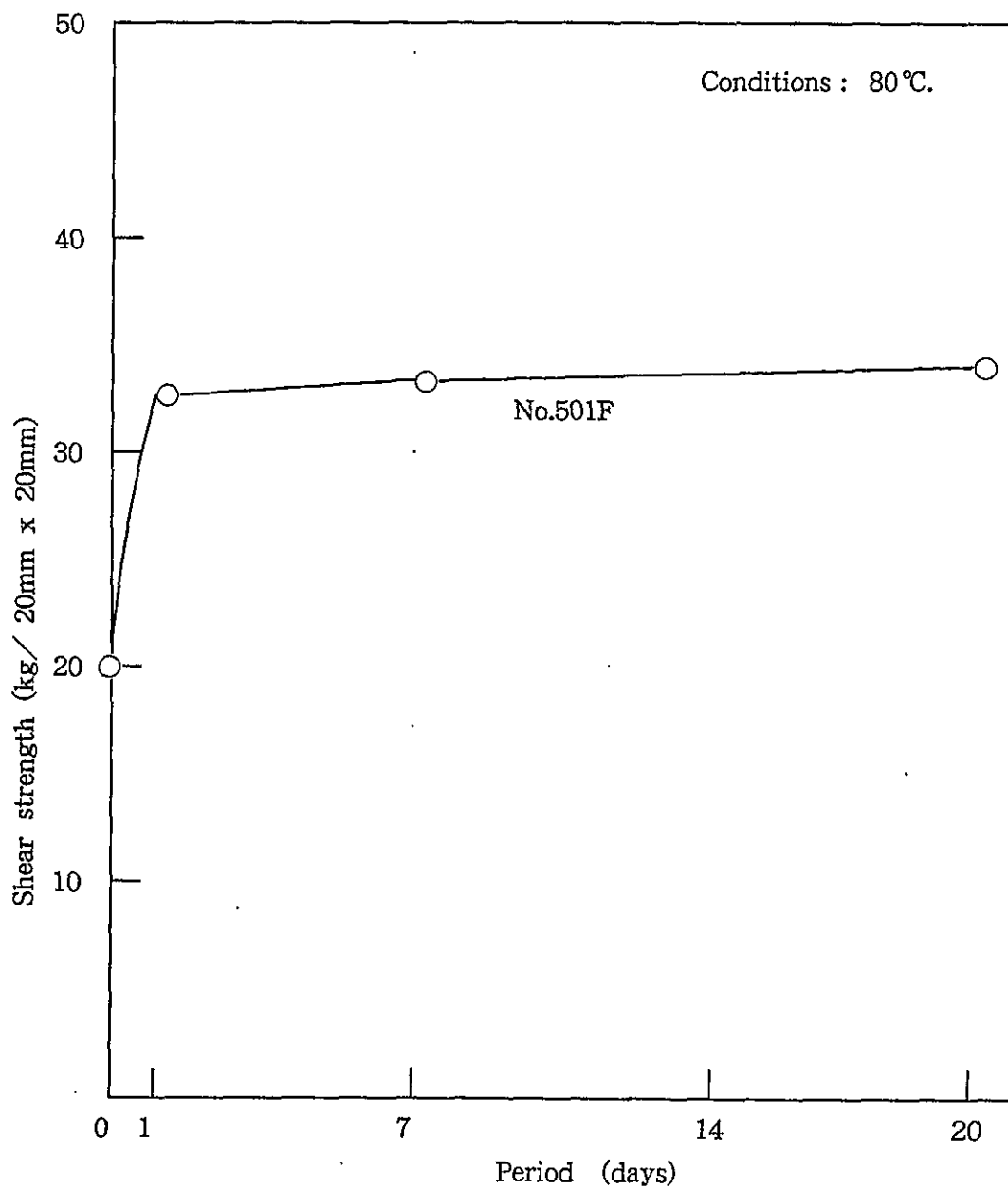


Figure 7 : Changes in shear strength with time
at high temperature

6.7 Storage stability

- (1) Testing method : 180° peel strength
- (2) Substrate : Stainless steel plate
(conforming to JIS - Z - 1528 - 6 - 7 - 2)
- (3) Measuring temperature : 20°C
- (4) Peeling rate : 300mm/min.
- (5) Conditions for storage : Store tapes under each specified conditions mentioned in figure below. Take out tapes after each specified time and measure 180° peel strength.

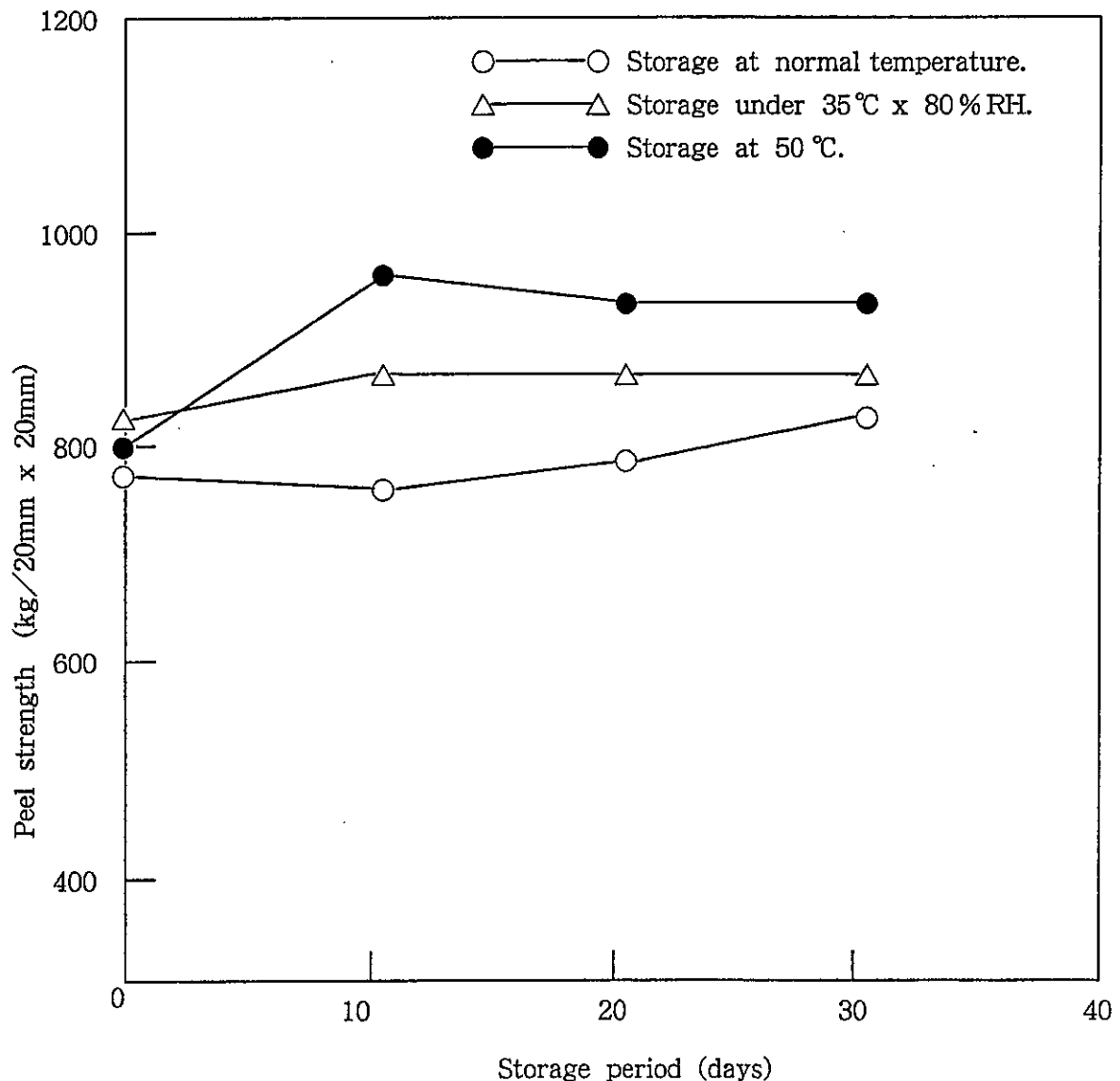


Figure 8: Adhesive strength after storage

7. Precautions for uses

- (1) Remove oil, moisture and dust completely from surface of substrate.
- (2) Smooth rough surface as much as possible.
- (3) The adhesive employed is pressure - sensitive type, so apply the tape by giving a sufficient pressure to ensure complete contact with substrate.
- (4) It will take a little time until the adhesive strength reaches the designed level. Unlike glue application, it is not necessary to hold with fixing means. However, prevent the applied tape from being affected by undue force within several hours after application.
- (5) It is the best to apply the tape at temperature from 10°C to 30°C.

8. Precautions for storage

- (1) Please be sure to store the tapes in a box. The box containing the tapes should be placed so that side of the tape faces upward.
- (2) Please store the tapes in a dark cool place, away from the direct sunlight.

9. Others

The technical data figures mentioned herein are typical, and should not be used for any specifications purposes.