



# NITTO DENKO PRODUCT INFORMATION

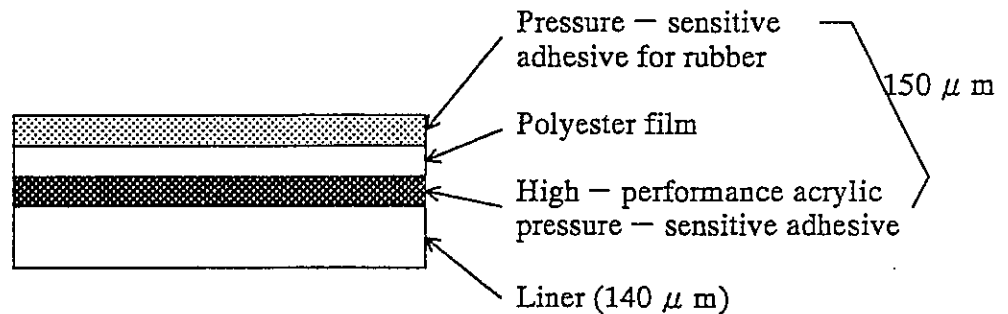
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Ref. No.

DCTVR - D05 - E 11/90

## NITTO DOUBLE - COATED TAPE FOR BONDING VULCANIZED RUBBER

### 1. Construction



### 2. Features

- 1) Provides excellent bondability to unprimed vulcanized rubber boards.
- 2) Provides excellent bondability to chloroprene rubber, EPT rubber, natural rubber, etc.
- 3) The adhesive strength will not be deteriorated in extended storage after application to vulcanized rubber boards.

### 3. Varieties of Product

Table 1 Varieties of the Product

Item Identification No.	Description
VR - 5311	High cohesive force, For CR, EPT and NR rubber boards
VR - 5321	High initial adhesion, For CR, EPT and NR rubber boards

CR: chloroprene rubber, EPT: ethylene\* propylene rubber, NR: natural rubber



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## 4. Properties

### 4.1 Surface Treatment Method and Adhesion

Test specimens were applied to the rubber boards surface – treated differently, passing a 2kg roller over the tape. After the lapse of 30min., the 180° peel strength was measured at 23 °C and at a pulling rate of 300 mm/min.

Surface treatment conditions:

- \* Dry waste cleaning: The surface of rubber board was wiped twice with dry waste.
- \* Toluene cleaning: The surface of rubber board was cleaned twice with toluene – soaked waste.
- \* Primer treatment: The rubber adhesive (supplied by a rubber board maker) was diluted by 10 times and the surface of rubber board was brush – coated with it.

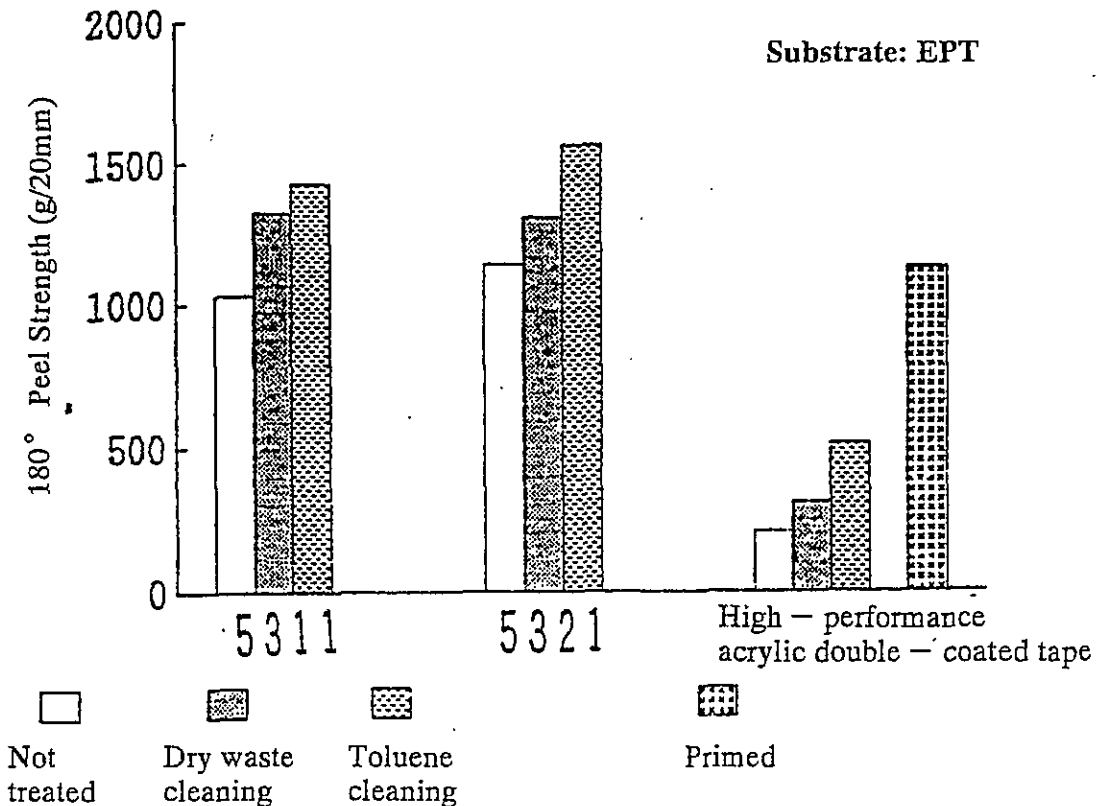
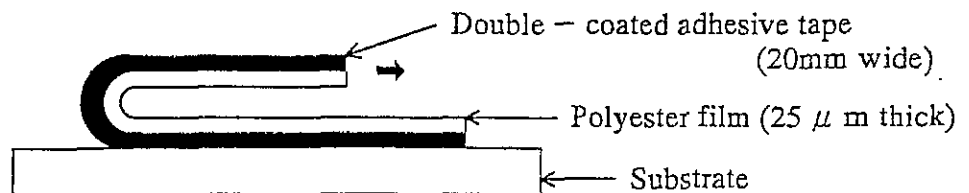


Fig. 1 Surface Treatment vs. Adhesion to EPT



## 4.2 Holding Strength

The 180° peel strength to various kinds of rubber board was measured after each board was wiped with dry waste.

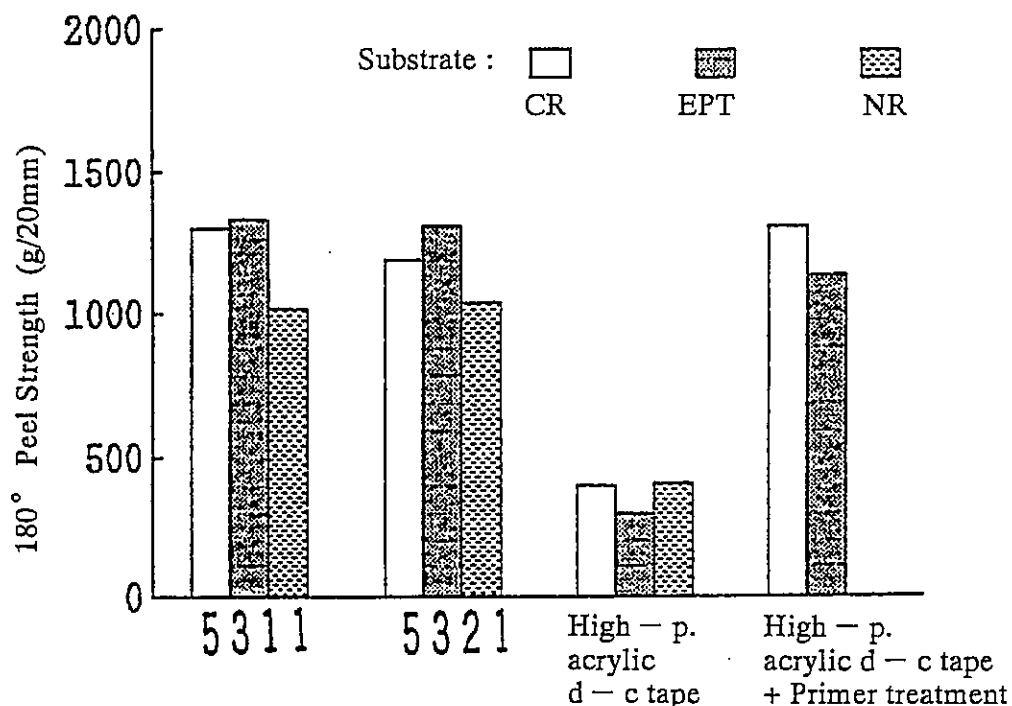


Fig. 2 Adhesion to Various Kinds of Rubber Boards

## 4.3 Change of Adhesion with Time after Application

Test specimens were applied to EPT rubber boards and stored at room temperature and 60°C x 80%RH, then, the change of adhesion was examined.

Table 2 Holding Strength (min.)

Sample \ Temp. (°C)	40	60	80
5311	>120	>120	30
5321	>120	42	15
High - performance acrylic double - coated tape	>120	>120	118
Primer treatment* + High - performance acrylic double - coated tape	69	22	3

\* Primed EPT (2mm thick) was used as a lining for this sample and for others, PET #25 was used.

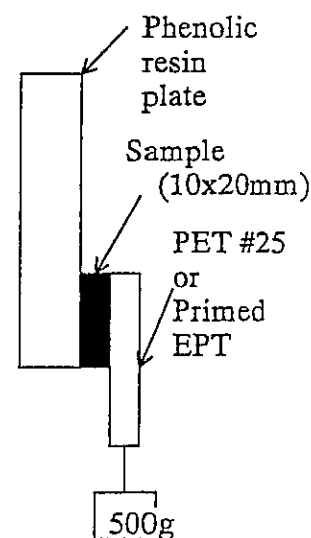


Fig. 3 Testing for Holding Strength

#### 4.4 Adhesion to Various Kinds of Rubber Boards

The 180° peel strength to various kinds of rubber board was measured after each board was wiped with dry waste.

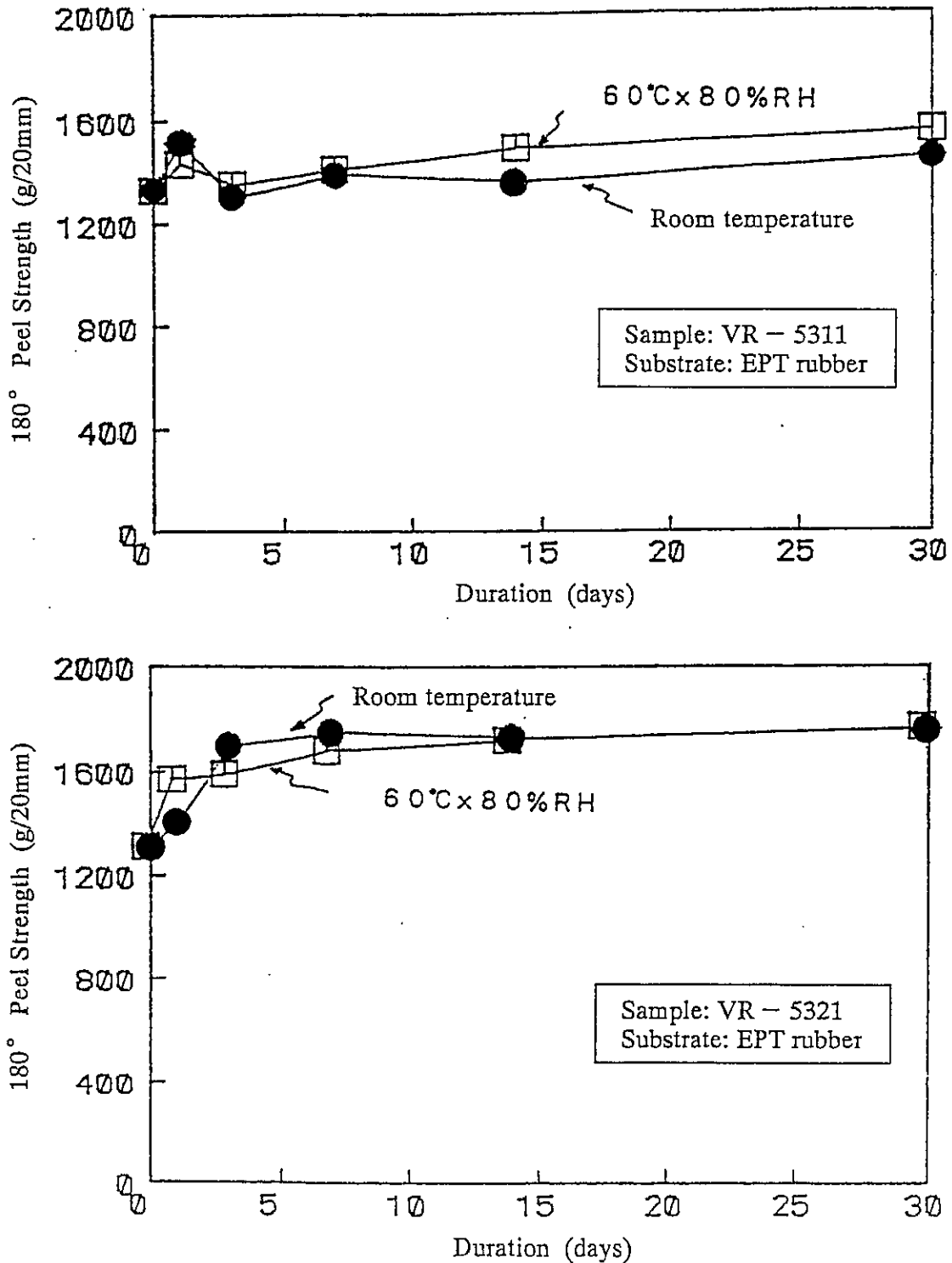


Fig. 4 Change of Adhesion with Time after Application

## 5. Precautions

### 5.1 Handling Precautions

- 1) There are various kinds of rubber on the market. Accordingly, we suggest you to make a careful pre — test before actual use.
- 2) Remove oil and grease, moisture and water, dirt and dust completely from the surface of the substrate with dry waste.
- 3) When the tape is not firmly bonded to the substrate, clean the surface of the substrate with a solvent.
- 4) The recommended application temperature ranges from 10°C to 30°C .  
When enough adhesion cannot be obtained in winter time due to low ambient temperature, heating the tape and the substrate is useful.
- 5) The rubber boards where the tape has been applied should be put into a box and stored in a dark place.

### 5.2 Precautions for Storage

- 1) Put the tape into the box and store it.
  - 2) Store the tape in a dark place away from light.
- \* The tape is thermally stable but contains light — sensitive materials, so put the tape into a box and store it in a dark place after use.