

## PROTECTIVE FILM NOVACEL 4228

### I DEFINITION

Self-adhesive film for temporary surface protection.

### II CHARACTERISTICS

#### II.1 Backing

Film type : polyolefins  
Colour : black and grey (external side grey)  
Type of adhesive : rubber

#### II.2 Functional characteristics

Characteristics	Method	Metric Units	US Units
Average thickness	AFERA 5006	100 µm	3.9 mils
PAL / A	Internal method based on AFERA 4001	140 cN/cm	12.8 oz/in

### II.3 Informative characteristics

Characteristics	Method	Metric Units	US Units
<u>Breaking strength</u> : - Machine direction - Transverse direction	AFERA 5004	> 1.3 daN/cm	> 7.4 lbs/ in
		> 1.0 daN/cm	> 5.7 lbs/in
<u>Elongation at break</u> : - Machine direction - Transverse direction		> 200 %	> 200 %
		> 400 %	> 400 %

\* AFERA : Association of European Self-Adhesive Tape Manufacturers.

N.B: The informative characteristics are only indicative and will not engage NOVACEL's responsibility

## III PRINCIPAL USES

NOVACEL protective film is used for the protection of surface finishes from dirt, scratches and tool marks during:

- Handling
- Transport and storage
- Forming
- Assembly...

It can be used to protect the following materials :

- cold rolled stainless steel
- aluminium anodized or non anodized (test required on 2XXX alloys)
- chrome or nickel
- skinplate
- zinc and pre-aged zinc
- pre-coated metal
- acrylic (PMMA)
- polycarbonate (PC)
- polystyrene (PS)
- rigid PVC
- decorative laminates

### Product designed for LASER Fiber & LASER CO<sub>2</sub> cutting.

It is not advisable to use on copper, brass and alloys containing copper.  
For polyurethane paints or varnishes, please consult NOVACEL.

## IV PRINTABILITY

The protective film can be printed in one or two colours. The annual quantity is 100000 sqm minimum and 50000 sqm minimum per order and per width (+/- 10 %, as normal practice for printed products). It becomes a communication support you can use for corporate identity support, displaying company or product logo or label, advertising, instruction and specifications, methods of use of the protected surface.

## V PRESENTATION

NOVACEL can supply plain rolls in a maximum width of 2600 mm / 102 in.

## VI LAMINATION

The protective film must be applied to a clean and dry surface with the aid of a laminating machine.

The film must be applied without bubbles and without excessive tension.

Lamination at a temperature above 15°C / 59°F.

For a lamination at a temperature  $\leq 15$  °C / 59°F, preliminary tests are recommended.

Elongation of the film during lamination should be less than 1 %.

## VII STORAGE AND APPLICATION

- The protective film must be stored in its original packaging, in clean, temperate conditions.
- The film should be applied within a 6 month period from the delivery date.
- The film should be removed within 1 year from the date of lamination, including 3 month outdoor, while avoiding the presence of stagnant water.
- Care should be taken for heating surfaces by infra-red radiation protected with the printed protective film :  
the printed surface of the film can absorb infra-red radiation at a different rate than the unprinted surface. NOVACEL requests that the client makes tests to ensure that this absorption differential does not have an undesirable effect on the protected surface. In the event that this phenomenon gives problems, a different type of heating should be used (preferably oven-heating).
- In case of screen printing after the removal of the film NOVACEL asks the customers to check, before use of the film, that the screen printing is not put in trouble by the use of the film.

## VIII REACH – RECYCLING

- At present, as regards to REACH regulation, NOVACEL can attest that none of the substances included in the list published by the European Chemicals Agency enters in

the composition of its films. On the other hand, NOVACEL cannot, for obvious confidentiality reasons, communicate the exhaustive composition of its films.

- The waste executive directive n° 2008/98/CE requires that each state of UE takes measures to increase the energy recovery, re-use and recycling of waste. NOVACEL can attest that our protective films can be recycled. The energy recovery and dumping are possible in accordance with local or national legislation in force, in authorised waste treatment center.

## **IX GENERAL GUARANTEE CONDITIONS**

NOVACEL self-adhesive, protective films are designed for temporary surface protection of surfaces against dirt, scratches and tool marks ; they are not designed for protection against corrosion, humidity or chemicals. Their applications are very diverse and the conditions of use can vary from one enterprise to another, and for this reason NOVACEL always ask the Client to test the product and carry a full trial, prior to its use.

The evaluation trial must take into account the type of material on which the product is used, the surface finish, the temperature and processing constraints, and the time and conditions for interior or exterior use.

The principal utilisations mentioned in part III are only indicative and will not engage NOVACEL's responsibility if utilisation test is not done under normal use forecast by the customer.

NOVACEL cannot be responsible for the misuse of the product, nor for the consequences of their usage for non-recommended applications.

The product guarantee is generally limited to the replacement of the defective product and does not cover consequential claims.

**This is a computerised form and is signed electronically**