



**FORZAL EF 12A and L75** is a two-component solvent-based adhesive, particularly designed for the lamination of all sorts of plastic films, whether transparent or metalized, aluminium and paper, particularly for those requiring a low solvent retention.

### *Technical Characteristics*

PRODUCT	FORZAL EF 12A	FORZAL L75
Solids (%)	75	75
Viscosity (at 25°C Brookfield, cPs)	5000	1000
Reactive group	OH	NCO
Solvent	Ethyl acetate	

### *Preparation of the blend*

<b>Rate:</b> in weight	<b>FORZAL EF 12A</b>	100
	<b>FORZAL L75</b>	15

### **Dilution:**

The most suitable solvents are: ethyl acetate, acetone, methylethylcetone (MEK), at a rate of 300 ppm of water at most. The use of solvents containing alcohol should be avoided. For guidance, here is a table showing the dilution with ethyl acetate.

FORZAL EF 12A	FORZAL L75	Solvent	Viscosity CF4
100 Kg	15 Kg	100 Kg	17''
100 Kg	15 Kg	115 Kg	14''

### **Pot life**

The pot life of the blend is around 12 hours in the machine. Depending on the working conditions, the life of the mixture may be 3 hours.

### *Application*

#### **Application systems**

Forzal EF 12A and L75 is applied in laminating or printing machines provided with lamination unit and drying tunnel.

#### **Amount of adhesive**

The most advisable amount is comprised within 0,8 and 5 g/m<sup>2</sup> of dry residue.

## ***Processing and curing***

### **Drying temperature**

The recommended lowest drying temperature is between 60 and 80°C, depending on the speed of the machine and the volume of air existing in the drying tunnel (minimum suggested: 45 m/sec).

### **Calendering**

The best calendering temperature is between 50 and 80° C (the reference figure is 4 kg/cm<sup>2</sup> of pressure at 80° C).

### **Curing**

Thanks to a good adhesion and a quick curing, the item produced can be rewound and cut within 8 hours (depending on the kind of support being treated). At the end of 48 hours the item is completely cured.

### ***Cleaning***

Any part of the machine having been exposed to direct contact with the product ought to be cleaned with suitable solvents immediately after the operation.

### ***Food Report***

The **Forzal** adhesives range complies with the rules and meets the requirements of FDA, part 175, paragraph B, section 175.105 about materials that are to be in contact with food.

### ***Properties of the adhesive once cured***

Once cured and completely dried, the adhesive film is transparent, odourless, elastic and resistant to ageing.

### ***Useful life and storage***

Since the useful life varies a lot due to reasons beyond the manufacture and the packaging of the product (storage conditions, carriage, etc), we guarantee the perfect condition of the product up to six months from its manufacture. Should the product be used after that date, some preliminary tests must be carried out. The product has to be kept tightly closed in its original container and stored at a temperature between 5 and 20°C.

### ***Remarks***

Owing to the fact that **Forzal** adhesives contain polyisocyanates, all direct contact with the skin must be avoided.

Owing to the variety of working conditions, to the materials to be used and to the different nature of the products to be packed, our above indications should be considered for a guidance only. Each user should apply the product taking into account its means and experience.

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