

PLUSS[®]



Pluss Polymers is an offshoot of Manas, established to develop and market new technologies and products developed inhouse. Pluss Polymers was incorporated in 1993 to commercialise the technology for grafted modified polymers and alloys and blends. Backed by competent technical staff, laboratory facilities, a good library and technical database with a retrievable wealth of information marketed the OPTIM[®] brand of grafted polymers for the first time in India in 1996.

OPTIM[®] coupling agents and compatibilisers allow plastics manufacturers of world class quality products to *OPTIMise* their compound properties. The ADNYL[®] range of nylon alloys provide the user with extra tough nylon for increased strength.

Profiles and other rigid and flexible containers for thermal energy storage have also been introduced in India for the first time by Pluss Polymers.

TECHNICAL DATA SHEET

Product	: Adnyl[®] N - 871
Description	: ADNYL [®] N-871 is predispersed chemically modified PE produced by reactive compatibilisation technique in Nylon.
Properties	: N-871 exhibits good adhesion on other layers in co-extrusion with polyethylenes and polyamides when mixed with either and coextruded with the other.

Typical product properties are:

MFI (235°C/ 2.16 Kg) :	6.36 g / 10 min
Density :	0.914 g/ml
Melting Point °C :	220-225°C

Applications

ADNYL[®] N – 871 most suited for three layer coextruded film for packaging. In three layer coextruded film nylon alloy used as the middle layer which is compatible with PE polymer on the outside. It enables the film manufacturer to do away with a tie layer like in a 5 layer Nylon film. N-871 has good bonding properties and barrier properties.

Process Conditions

Coextruded film is successfully produced on both blown and cast film equipment. The presence of multiple extruders feeding a single die requires that each extruder be selected as to match the capabilities of the die & cooling systems as well as the polymer flow characteristics. Process parameters will need to be adjusted for each individual machine to achieve the right bubble stability. N-871 is hygroscopic and therefore, needs to be pre-dried at 100±5°C for 2 to 4 hrs.

The actual Processing conditions will depend on the machine characteristics but the following can be taken as a guideline

Temp Profile:

Feed Zone	180-190°C
Compression Zone	190-220°C
Metering Zone	230-250°C
Die Zone	220-240°C

Stoppages : Same treatment as with normal nylons.

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