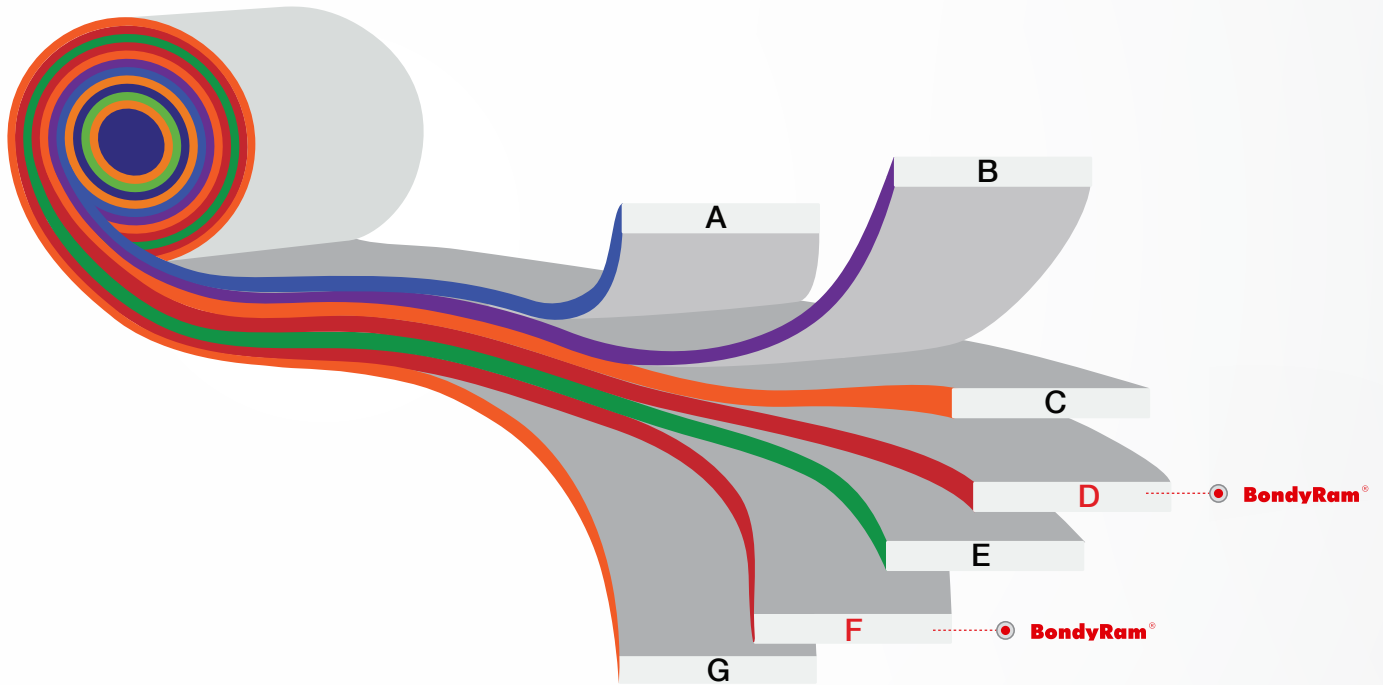


BondyRam®

CONCENTRATED GRADES

Bondyram concentrated grades recommended usage



SIWAN GROUP

Lid for chilled food packaging

7 layers, total thickness 40 mic (1.6mil)

A	PE+AF
B	EVA+AF
C	PE
D	Bondyram TL4109E (30%) +PE (70%)
E	EVOH
F	Bondyram TL4109E (30%) +PE (70%)
G	PE

Meat product, retort sleeve

7 layers, total thickness 40 mic (1.6mil)

A	PE
B	Bondyram TL4109E (30%) +PE (70%)
C	PA
D	EVOH
E	PA
F	Bondyram TL4109E (30%) +PE (70%)
G	PE

Medium barrier, agricultural applications

5 layers, total thickness 70 mic (2.75 mil)

A	PE
B	Bondyram 4108 (20%) +PE (80%)
C	PA
D	Bondyram 4108 (20%) +PE (80%)
E	PE

Barrier lid for lamination with PET

5 layers, total thickness 20 mic (0.8 mil)

A	PE+AF
B	Bondyram TL4110 (50%) +PE (50%)
C	EVOH
D	Bondyram TL4110 (50%) +PE (50%)
E	PE



polyram

creative thermoplastic compounds

BondyRam[®]

ADHESIVE RESINS



BondyRam®

ADHESIVE RESINS

Concentrated Grades

Product Description:

Bondyram concentrated grades are maleic anhydride modified mLLDPE containing functional groups that enhance the adhesion to a variety materials such as: PA, EVOH, AL and other metals. BondyRam functions as a tie-layer resin in multilayer barrier packaging structures.

BondyRam concentrated grades are characterized by high level of grafted maleic anhydride. BondyRam concentrated grades can be used as is or diluted with polyethylene for various co-extrusion applications, in the manufacturing of films, bottles, tubes, and sheets.

Typical Property Data

Property	Unit	ASTM Test method	Bondyram TL4109E	Bondyram 4108	Bondyram TL4110
MFI 190°C / 2.16 Kg	gr/10min	D1238	2	1.5	1.8
Density	gr/cm ³	D1505	0.905	0.918	0.905
Melting Point	°C/°F	DSC	117/243	122/252	117/243
VICAT softening point	°C/°F	D1525	85/185	98/210	85/185
Shore hardness	D-Scale	D2240	40	45	40
Maleic Anhydride	%	FTIR	High	Very High	Very High

Processing:

Bondyram products can be processed on standard polyethylene equipment.

Packaging:

Bondyram products supplied in pellet form, 44lb / 20kg, PE bags, or 1250lb / 600kg cardboard boxes.

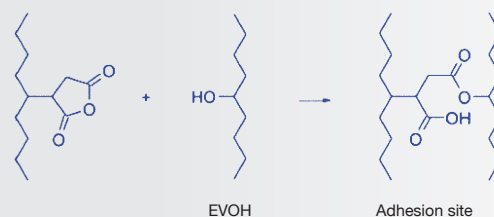


Food contact approvals:

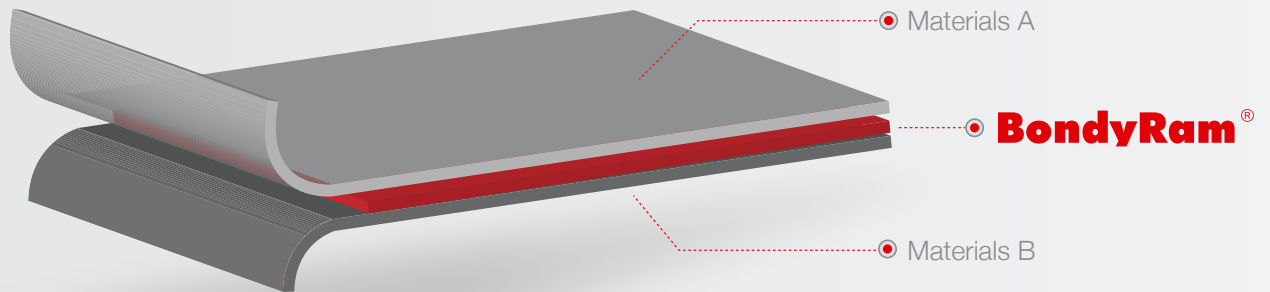
Monomers and additives are listed as authorized monomers/additives in Annex I of Regulation (EC) No. 10/2011

USA: conform to FDA 21CFR 175.105 (adhesives) for indirect food contact.

Bondyram®



Tie Layers | Ready to use



Property	Bondyram® TL 4101A	Bondyram® TL TL4120	Bondyram® TL 3125	Bondyram® TL 3115
Base Polymer	HDPE	LLDPE	MDPE	HDPE
MFI 190°C / 2.16 Kg	4.0	1	2.5	3
Melting Point °C - DSC	127	120	128	130
Multi layer Applications	Pipes	Film&Bottles	PEX/Pipes	Films/Bottles

Property	Bondyram® TL 1270	Bondyram® TL 1207	Bondyram® TL 1235
Base Polymer	r PP	c PP	r PP
MFI 230°C / 2.16kg	7	4.5	4
Melting Point °C - DSC	153	167	153
Multi layer Applications	Cast Film	Film/Bottles/Sheet	Film/Sheet

