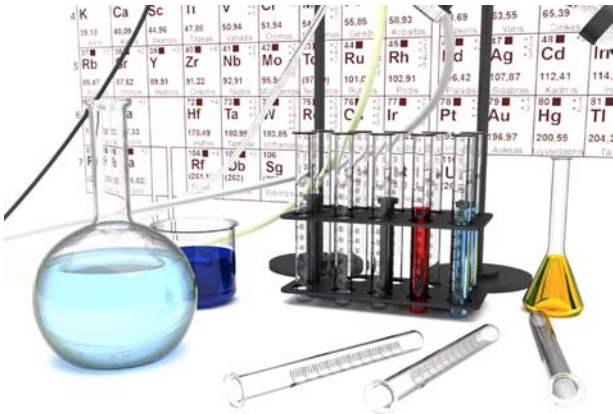


CASE STUDY

Specialty Foam Tape

Market Need

- High peel to SS (>5lb/inch, foam failure)
- High peel to LSE
- High heat resistance equal to solvent based PSA (unique, customer specific test)

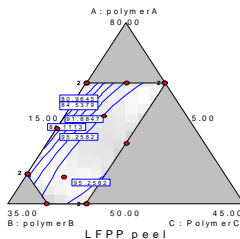


Tool Box

- Mixture Experimental Design
- Tackification
- Adhesion promoters
- Polymer blends
- Molecular weight control

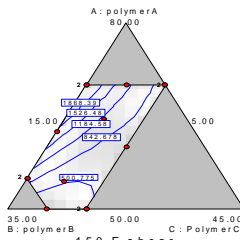
Mixture Design

DESIGN-EXPERT Plot
LFPP peel
● Design Points
X1 = A: polymerA
X2 = B: polymerB
X3 = C: PolymerC



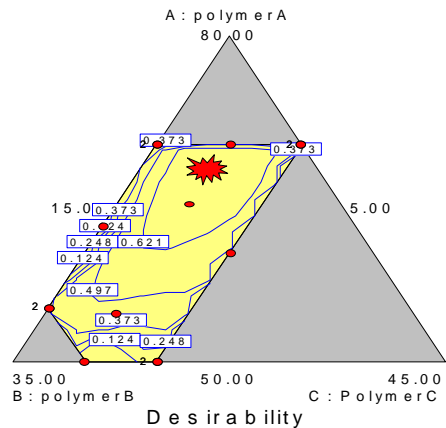
Response

DESIGN-EXPERT Plot
150 F shear
● Design Points
X1 = A: polymerA
X2 = B: polymerB
X3 = C: PolymerC



Response

DESIGN-EXPERT Plot
Desirability
● Design Points
X1 = A: polymerA
X2 = B: polymerB
X3 = C: PolymerC



Optimization

Final Properties

180° Peel (20 min)		Mode
Lens Finish PP	95 oz/in	M
High Density PE	47 oz/in	A
65°C shear, SS, 1kg	>850 min	C
SAFT, SS	117°C	C
2.2mil adhesive 1mil PET		

FIELD FEEDBACK

“This is the first water-based PSA we have found to pass our proprietary heat resistance test while delivering the required tack and adhesion to low surface energy plastics.”