

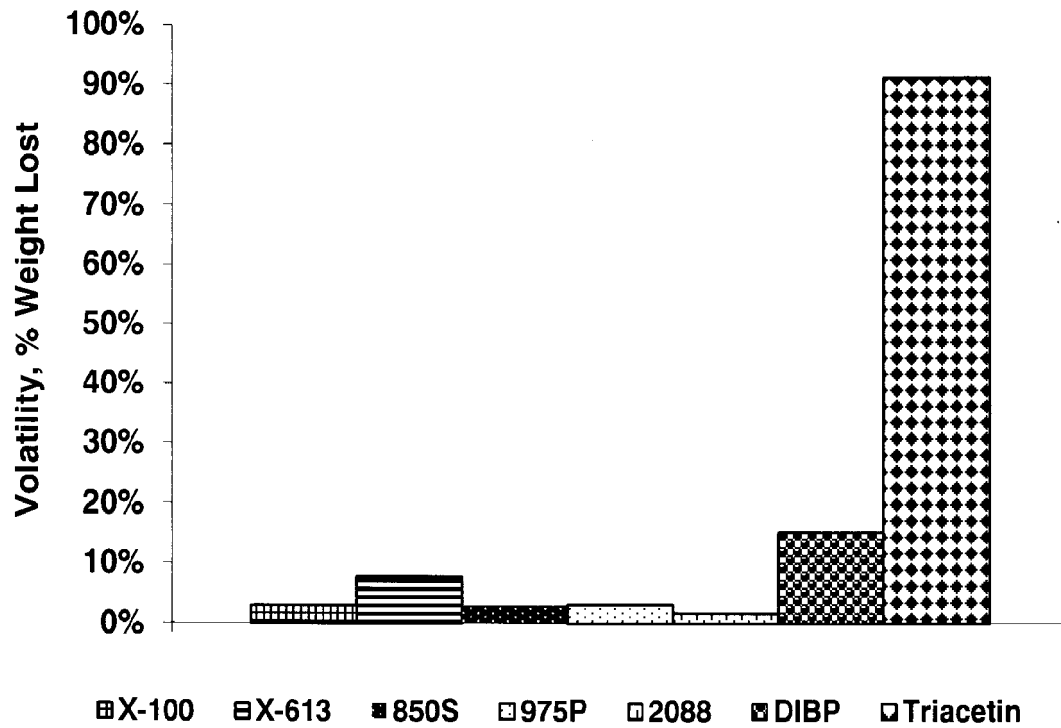


FIG. 1: Oven Volatility, One Hour at 110°C

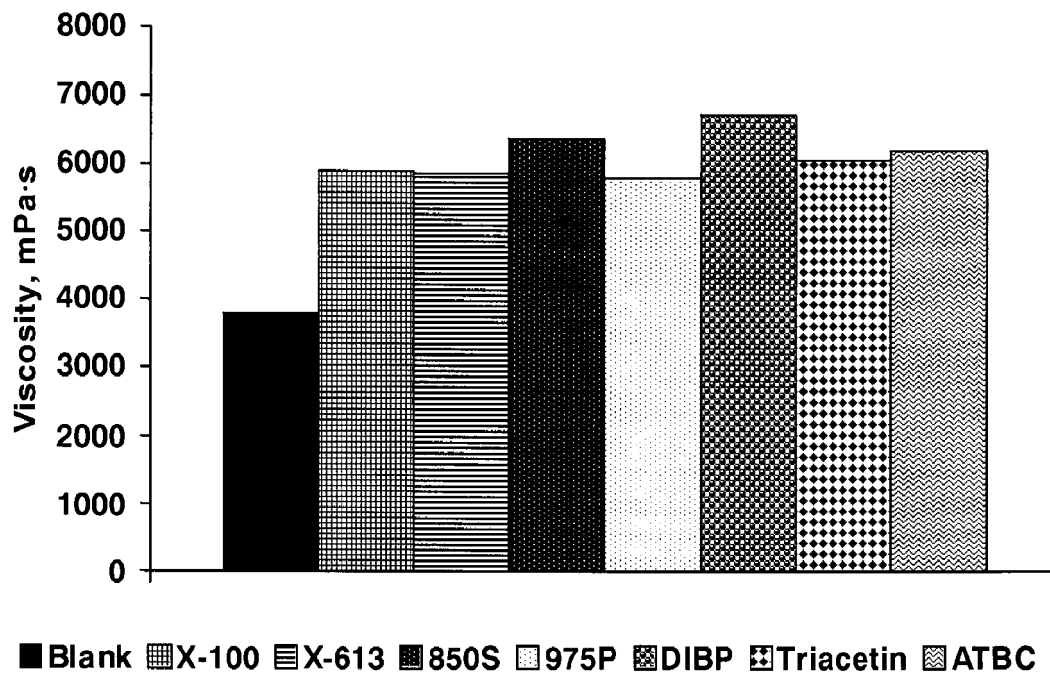
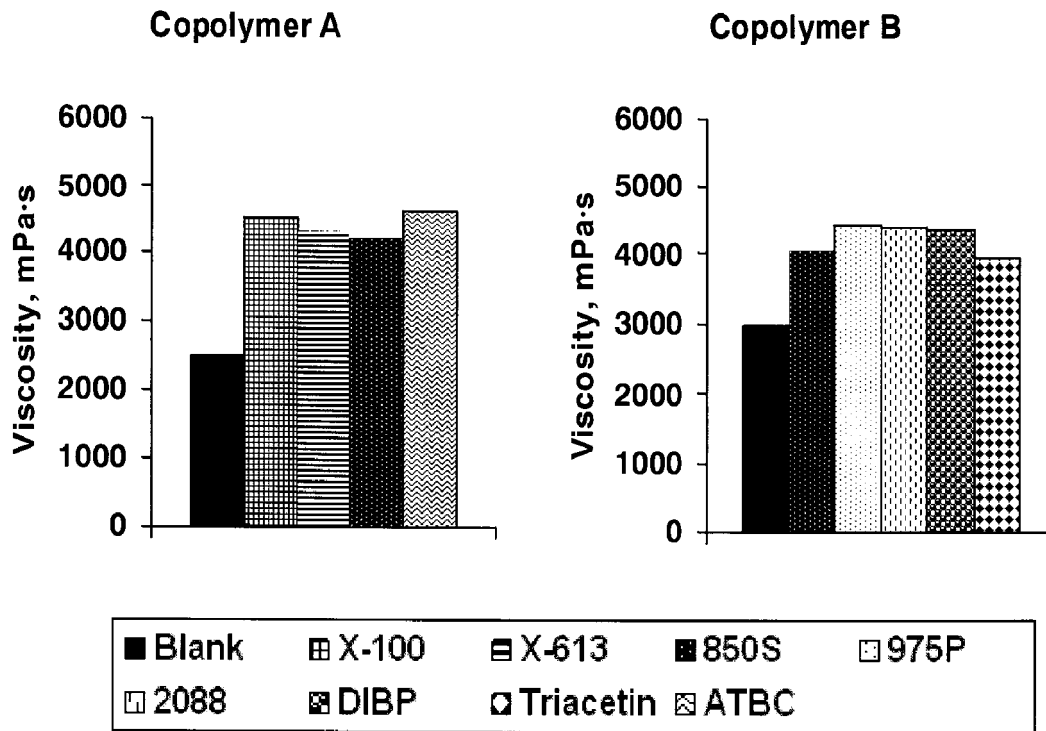
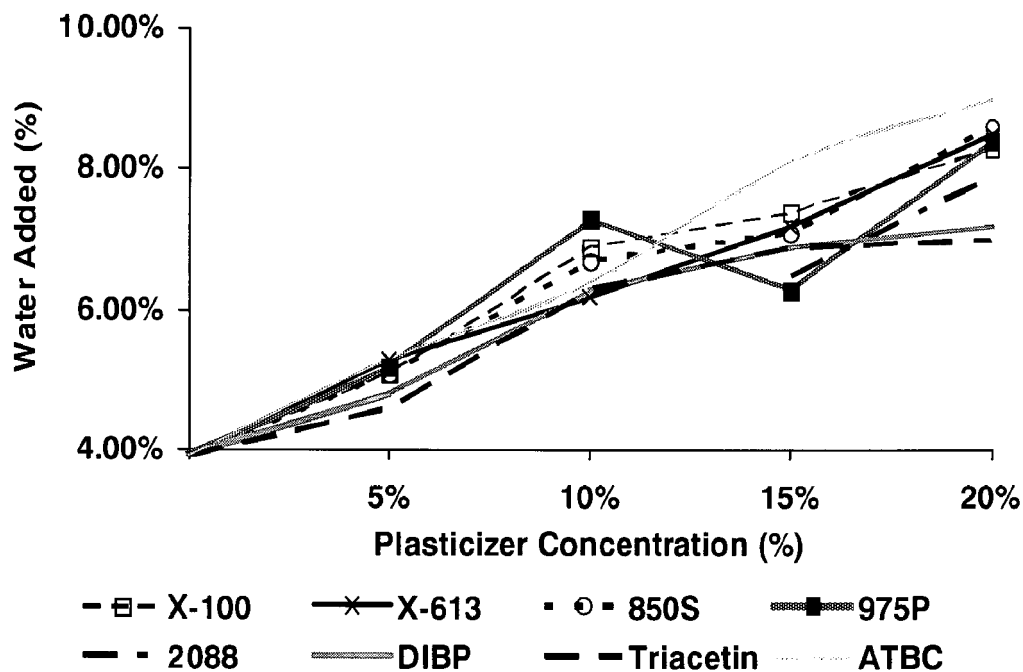


FIG. 2: Viscosity Response: One Day Viscosities, Homopolymer with 10% Plasticizer

Viscosity Response: One Day Viscosities PVA/E Copolymer with 5% Plasticizer

**FIG. 3a****FIG. 3b****FIG. 4** Homopolymer Water Reduction (to 2000 mPa's)

PVA/E Copolymer Water Reduction (to 2000 mPa's)

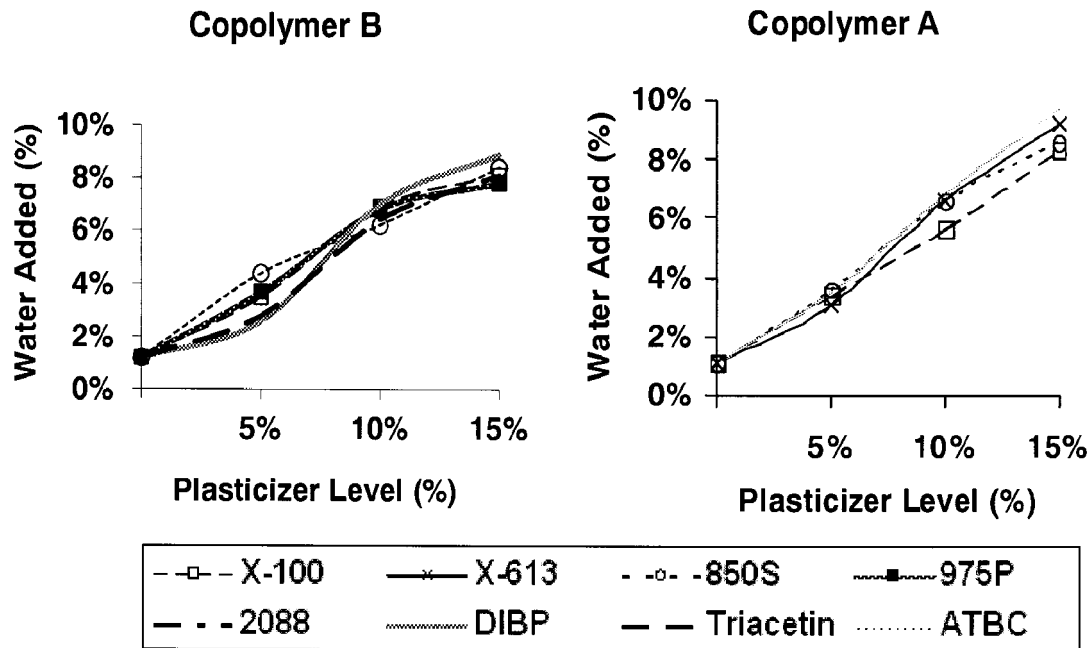


FIG. 5a

FIG. 5b

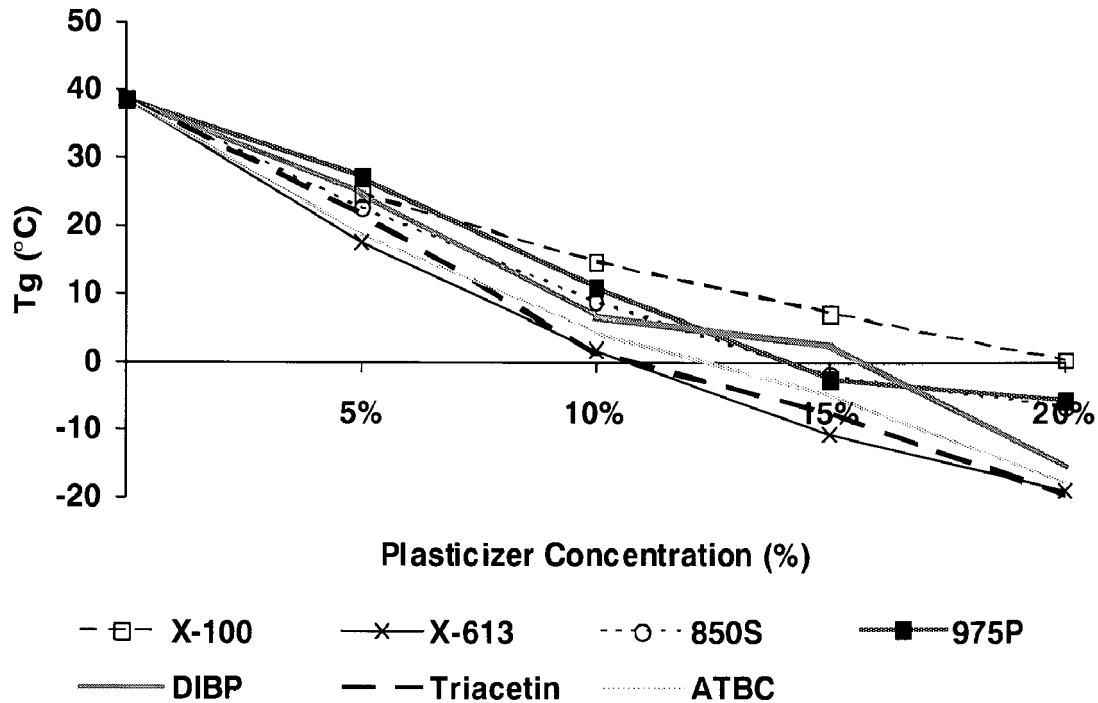


FIG. 6 Homopolymer Glass Transition

PVA/E Copolymer Glass Transition

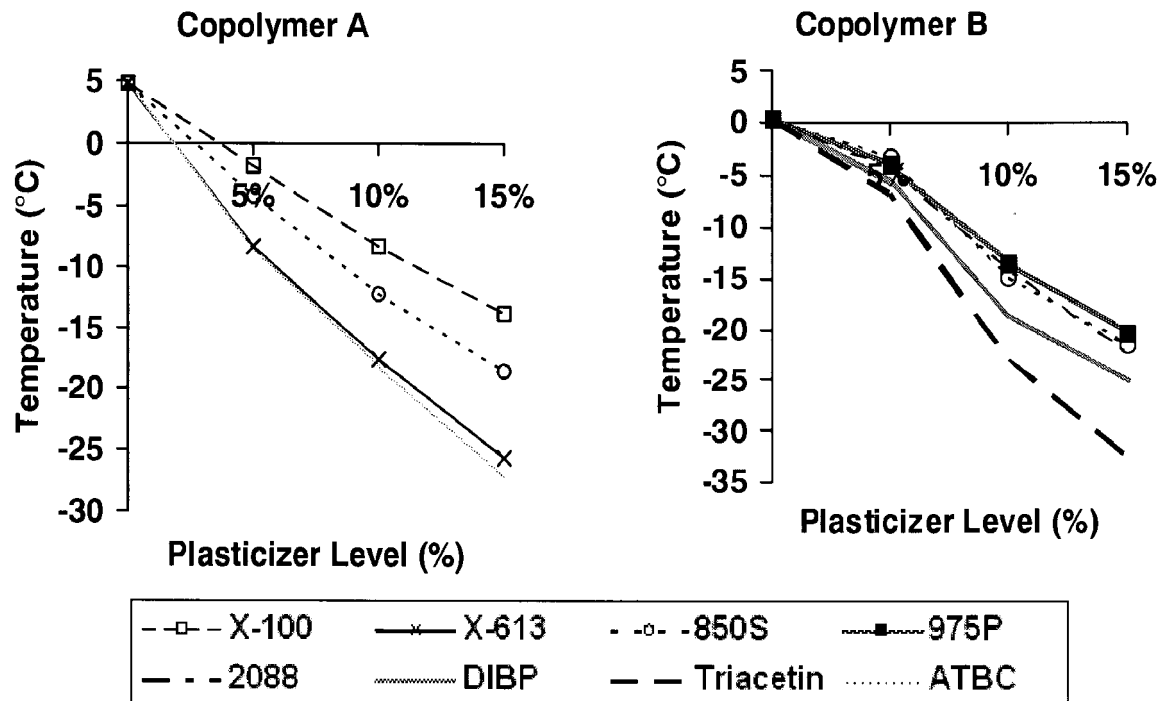


FIG. 7a

FIG. 7b

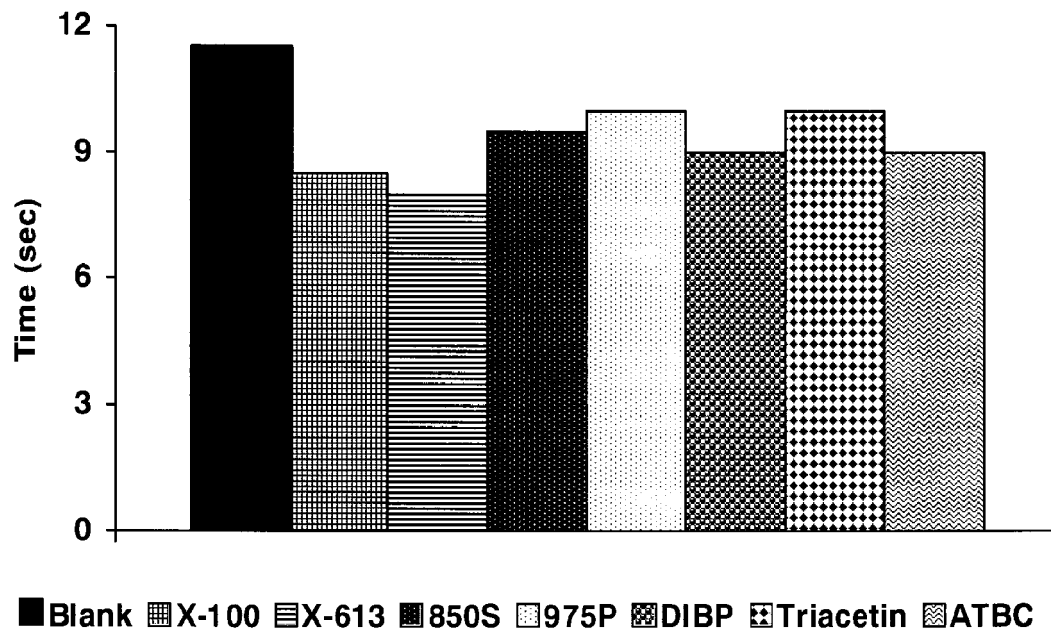
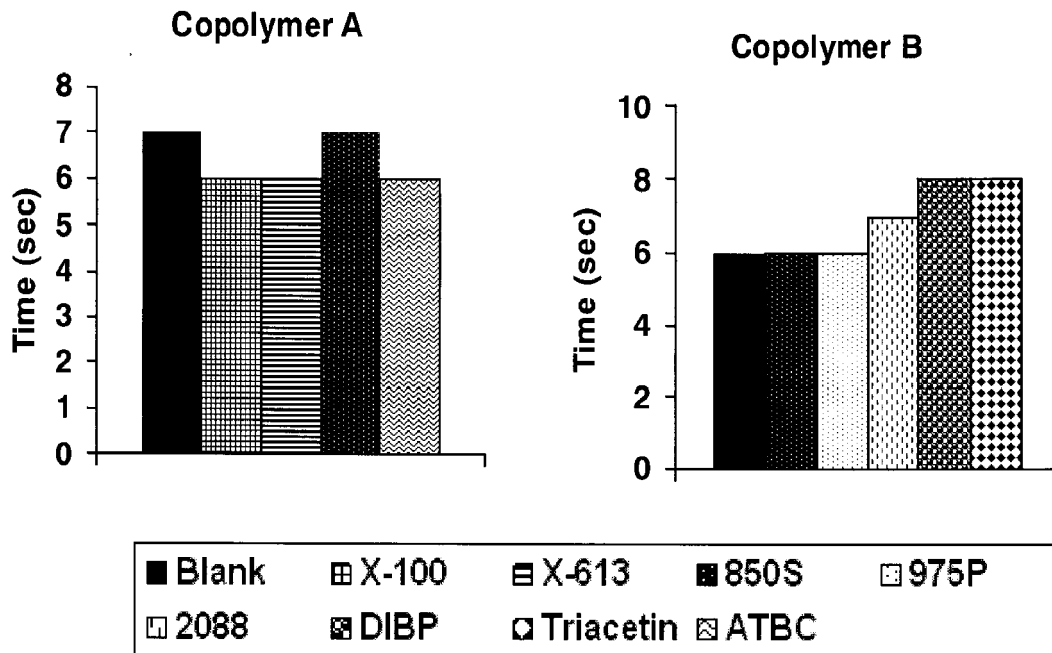
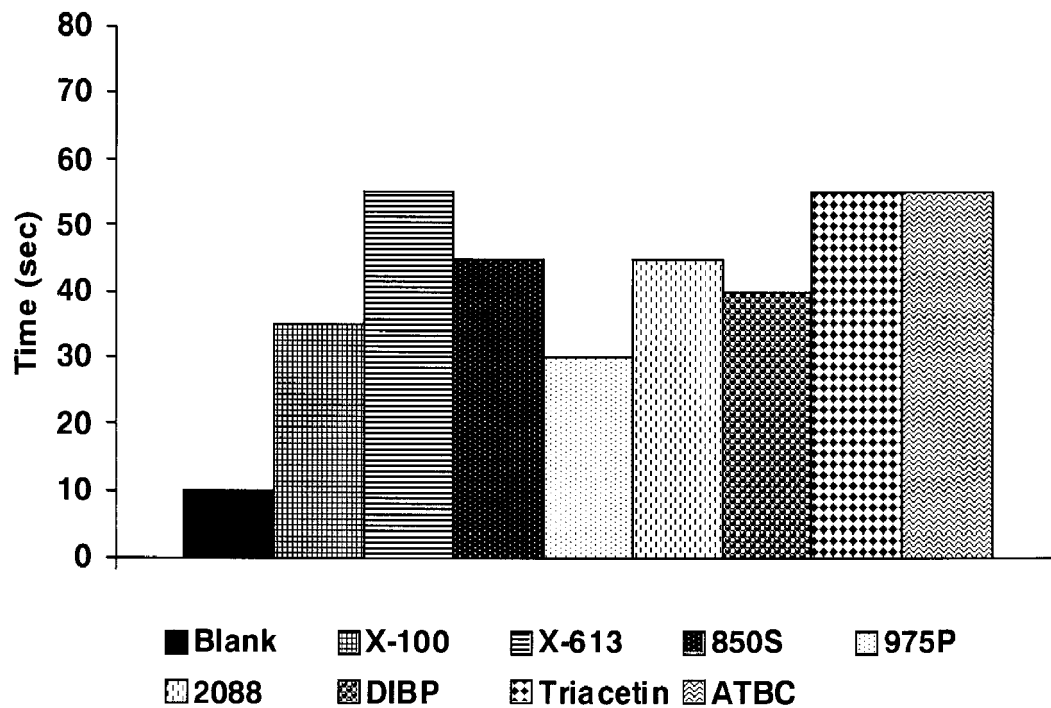


FIG. 8 Set Time, Homopolymer with 10% Plasticizer

Set Time, PVA/E Copolymer with 5% Plasticizer

FIG. 9aFIG. 9bFIG. 10 Open Time, Homopolymer with 10% plasticizer

Open Time, PVA/E Copolymer with 5% Plasticizer

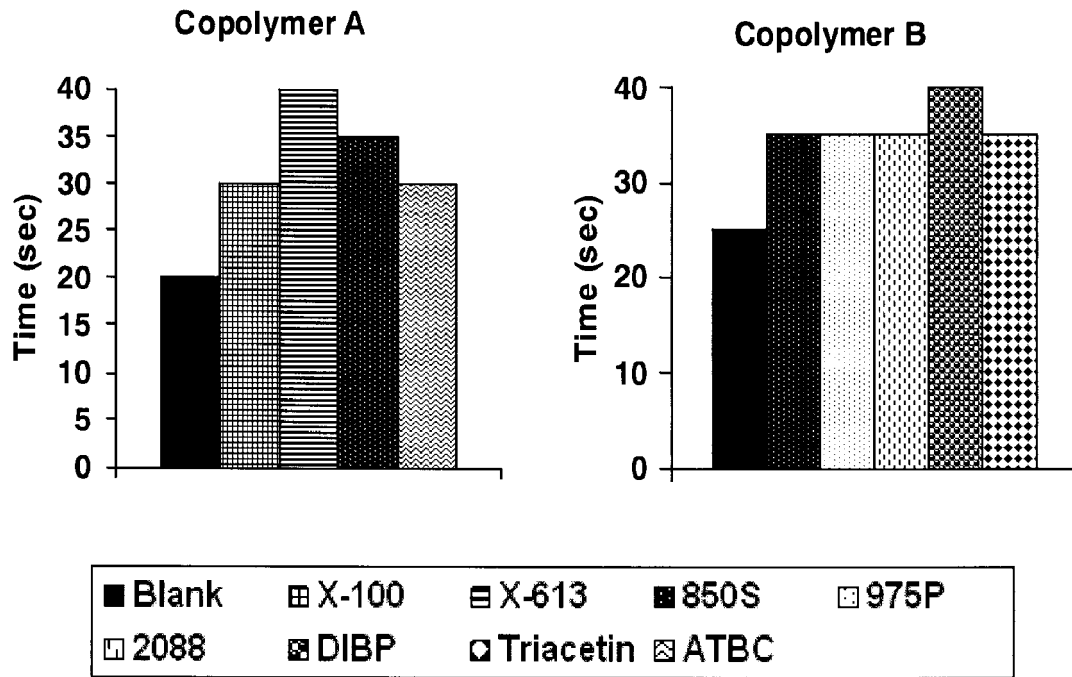


FIG. 11a

FIG. 11b

T-Peel Cotton to Cotton, PVA/E Copolymer with 5% Plasticizer

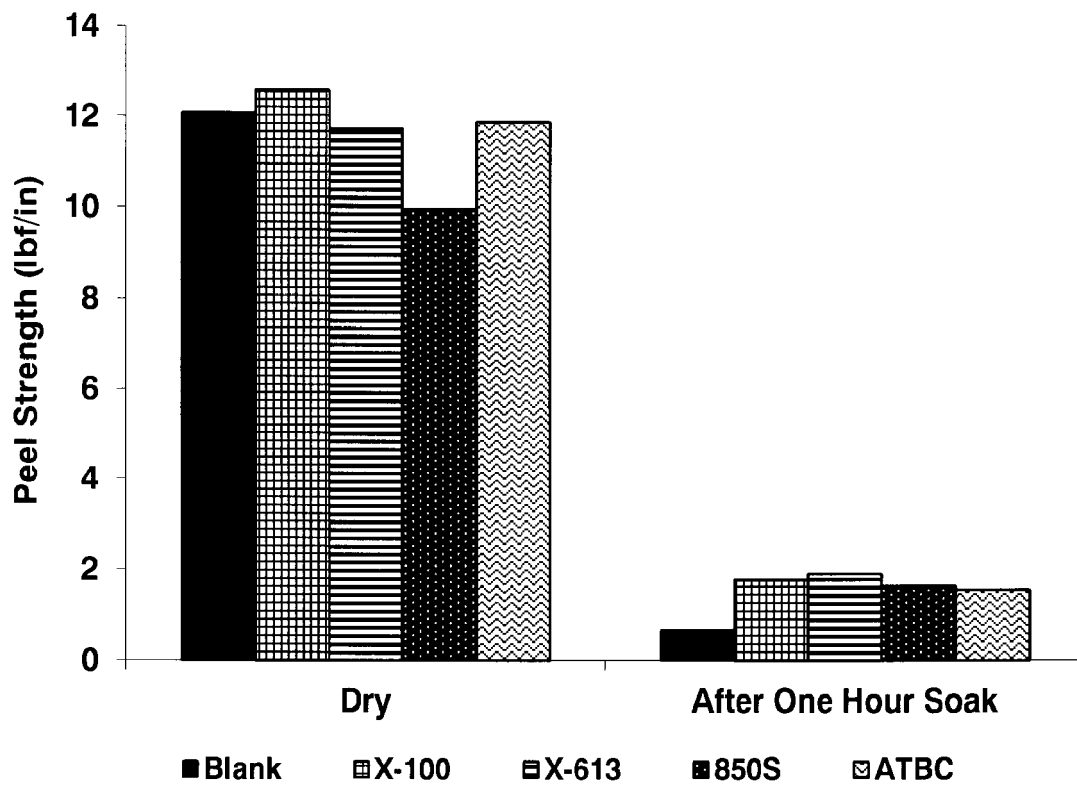


FIG. 12

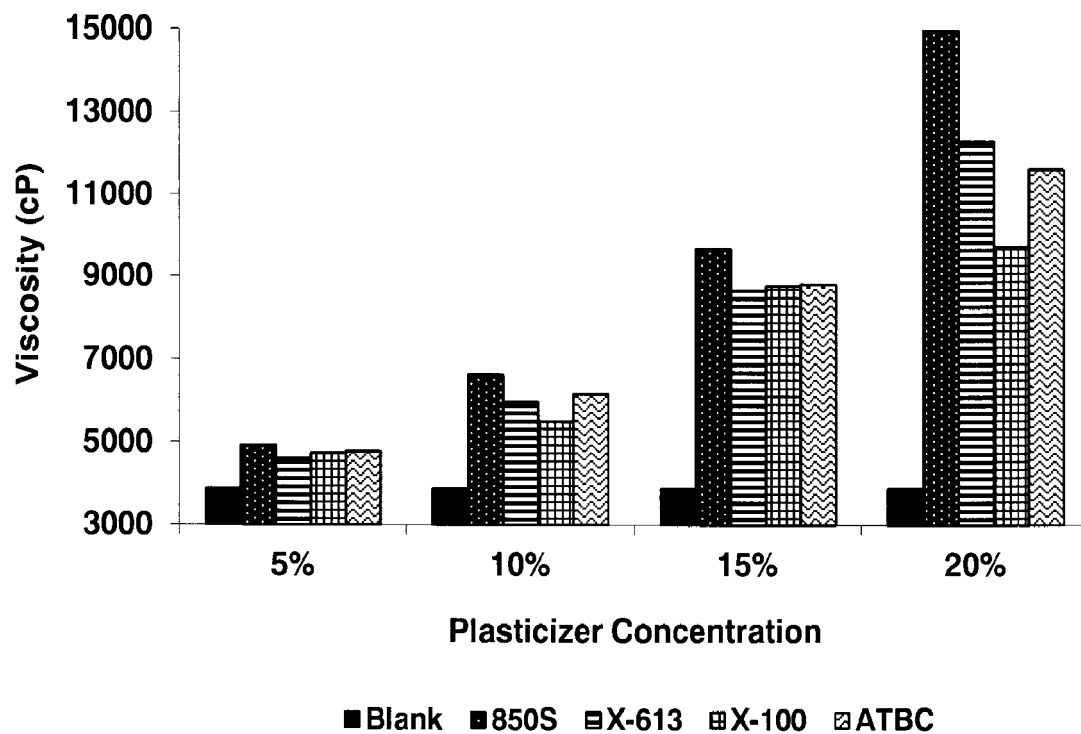


FIG. 13 Initial viscosities – Pace 383

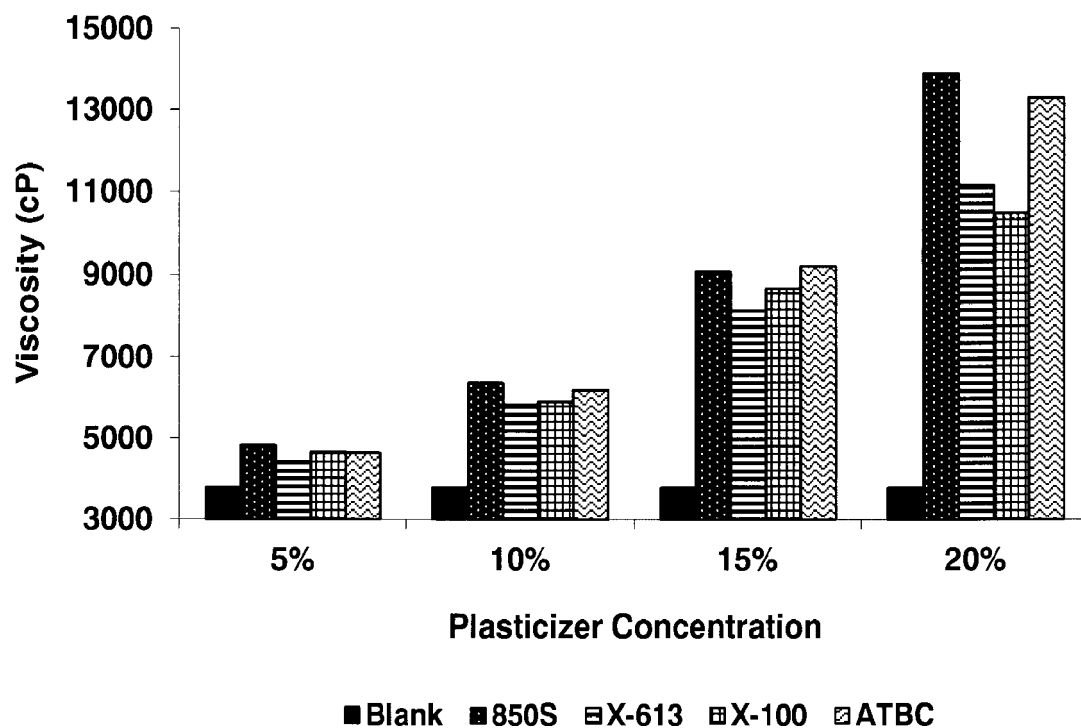


FIG. 14 One day Viscosity – Pace 383

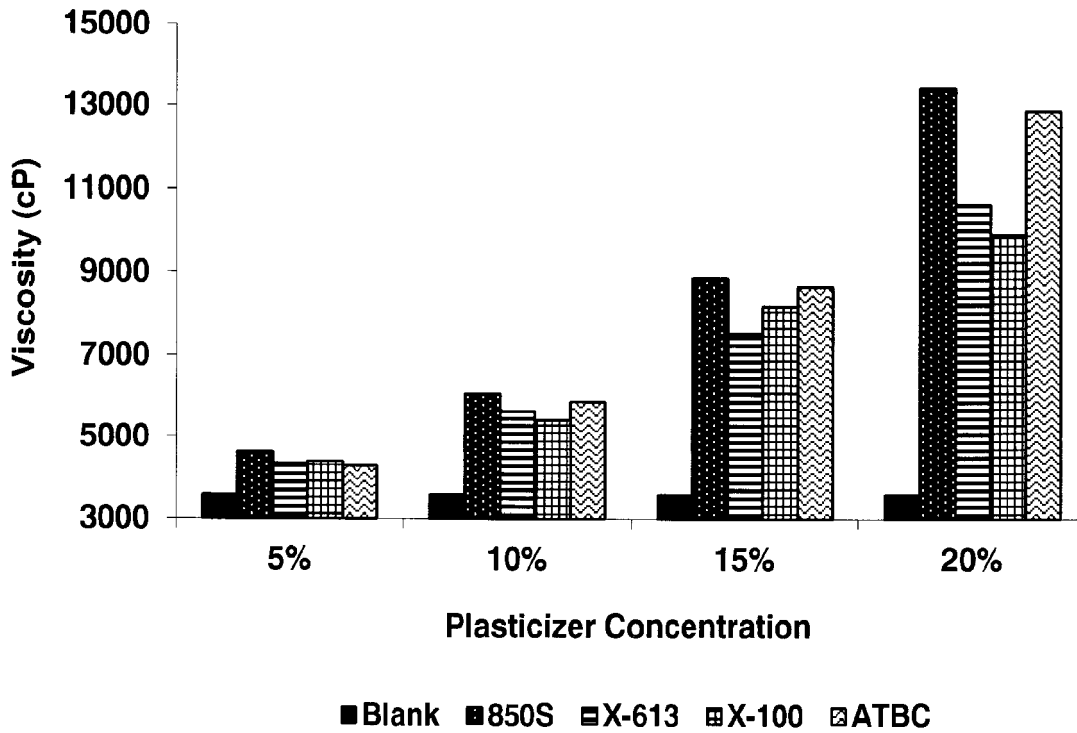


FIG. 15 Three Day Viscosity – Pace 383

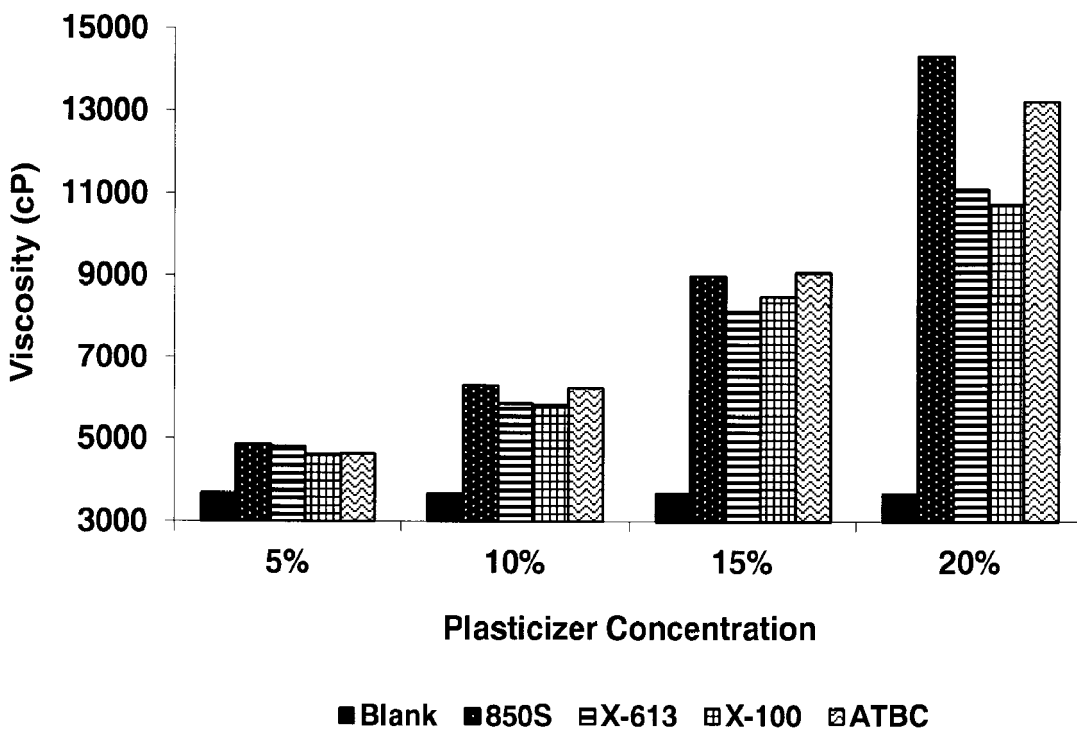


FIG. 16 Seven Day Viscosity – Pace 383

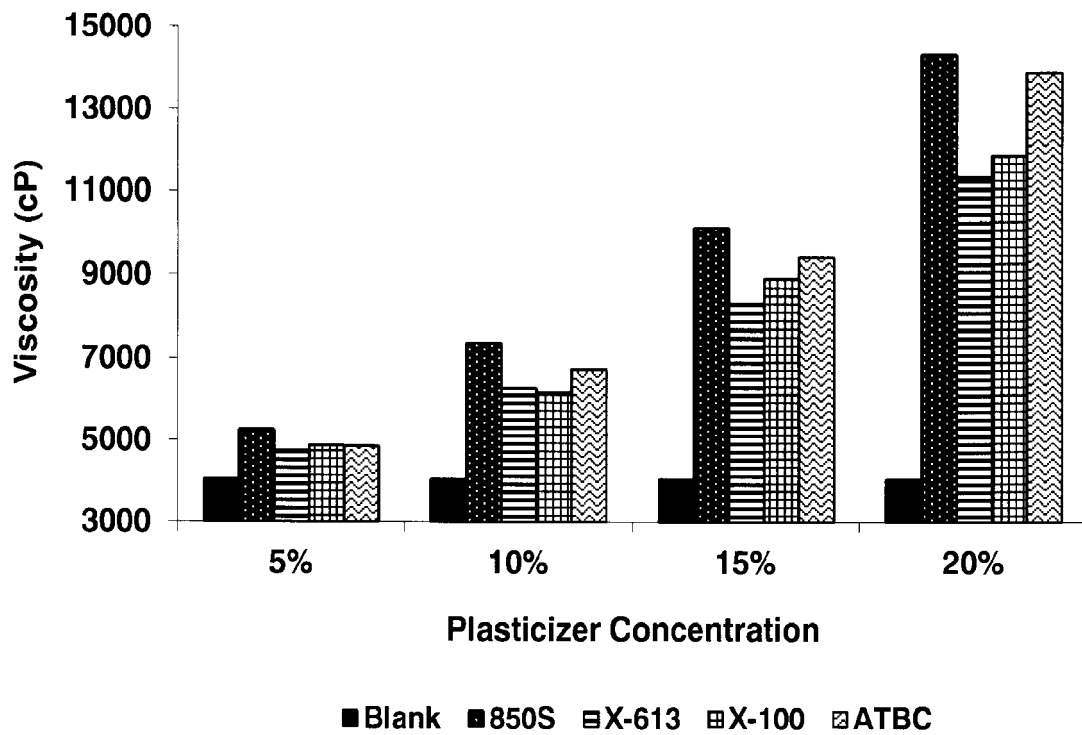


FIG. 17 Four Week Viscosity – Pace 383

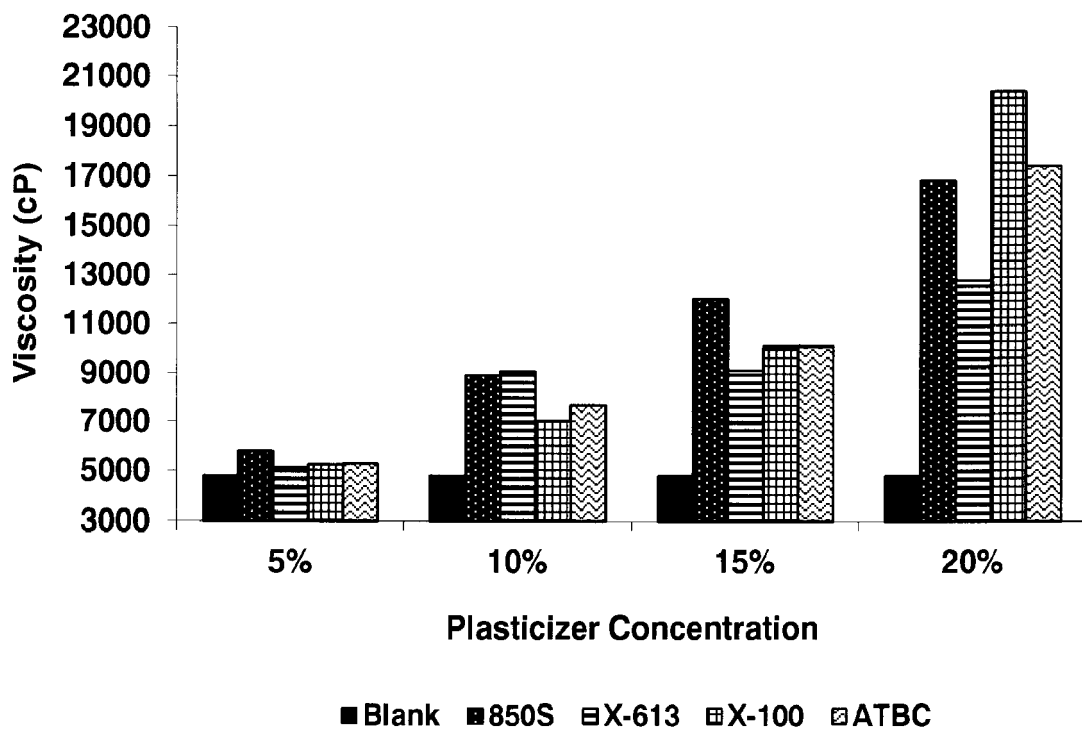
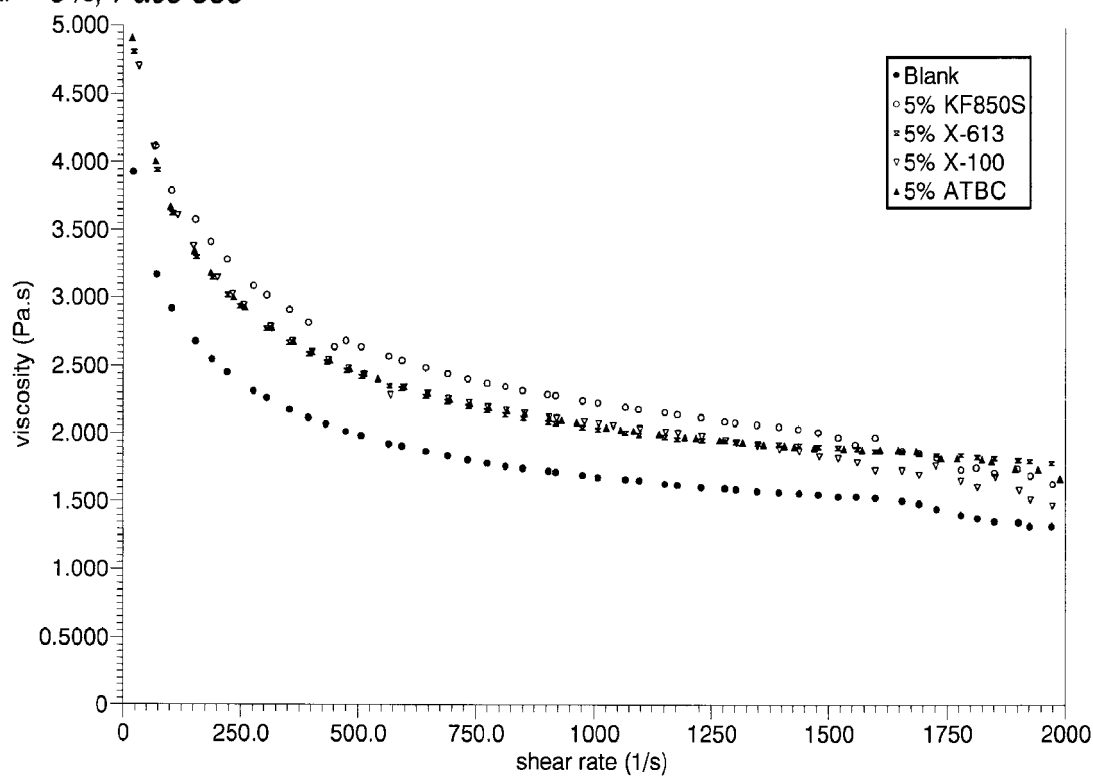
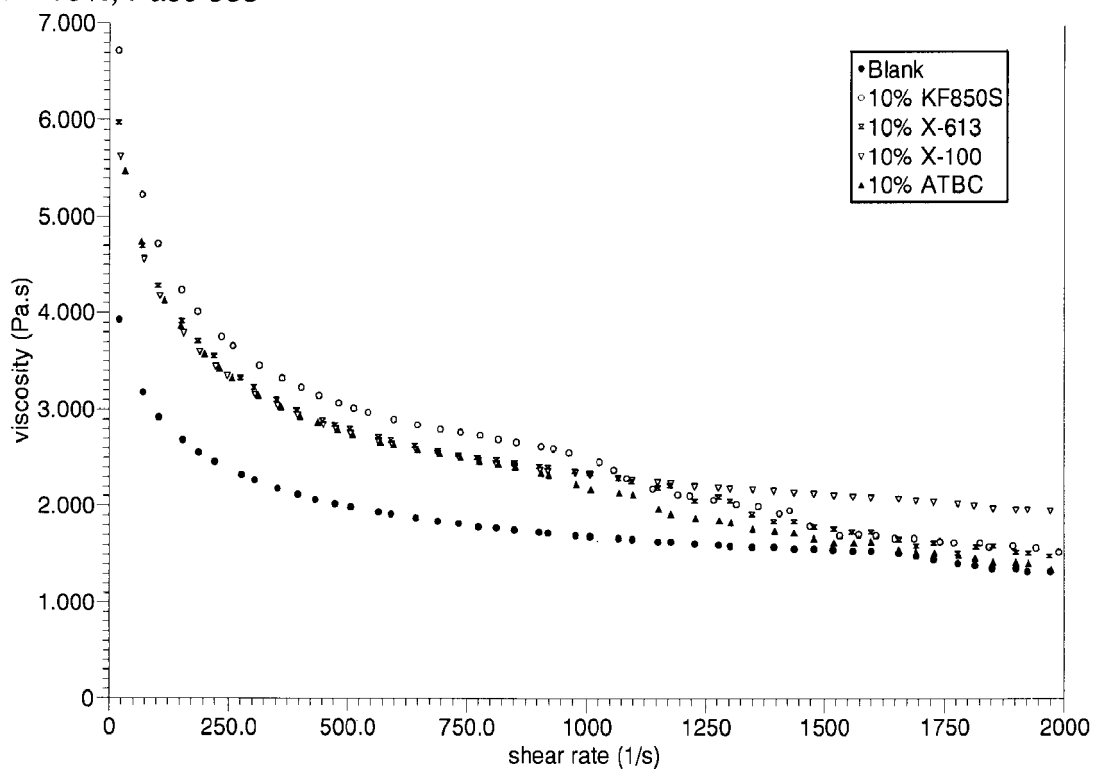
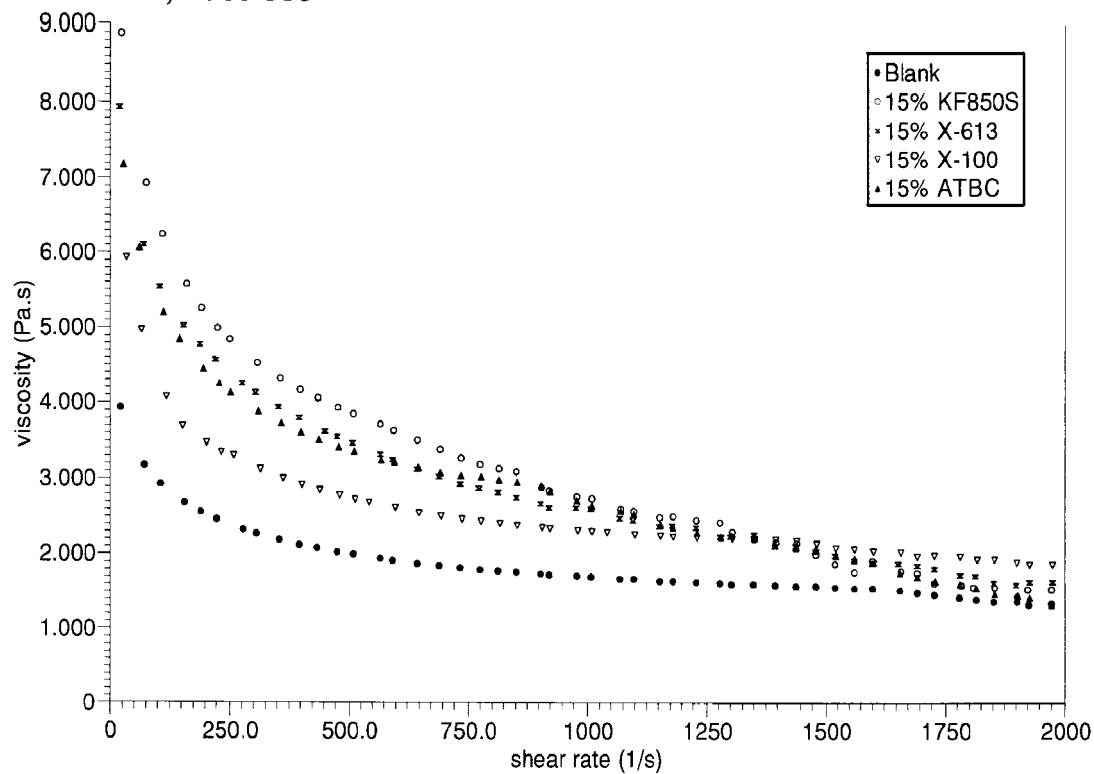
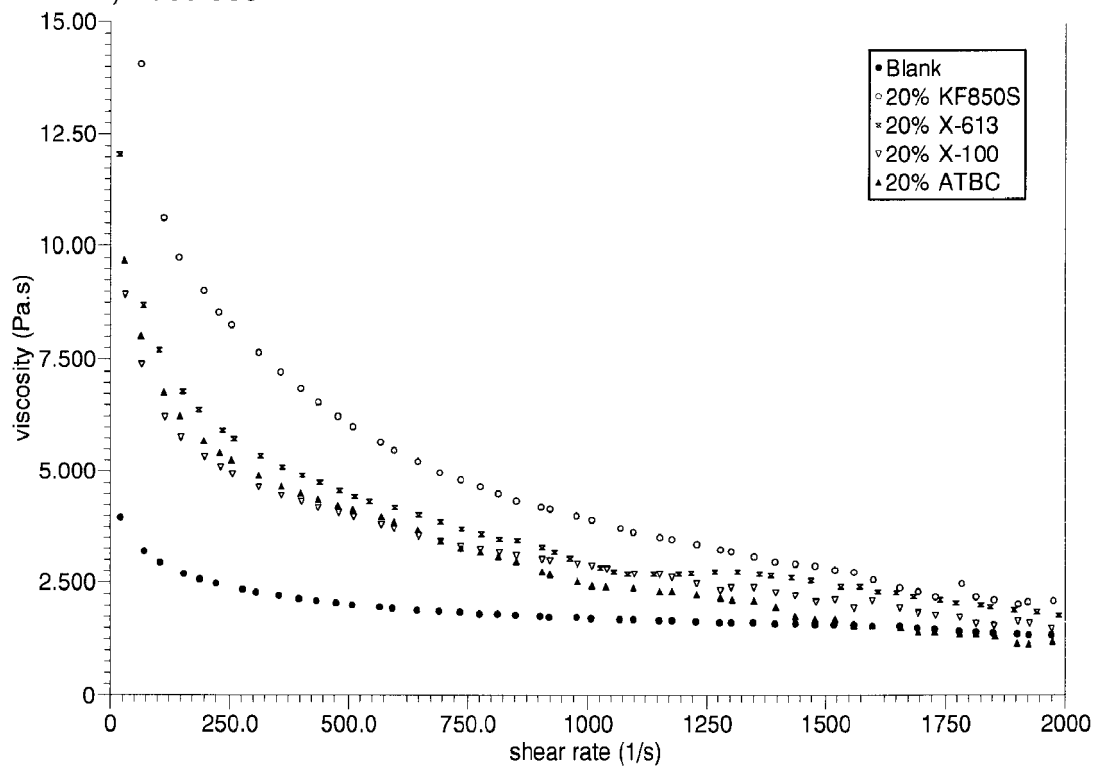


FIG. 18 Eight Week Viscosity - Pace 383

Shear – 5%, Pace 383**FIG. 19(a)***Shear – 10%, Pace 383***FIG. 19(b)**

Shear – 15%, Pace 383**FIG. 19 (c)***Shear – 20%, Pace 383***FIG. 19 (d)**

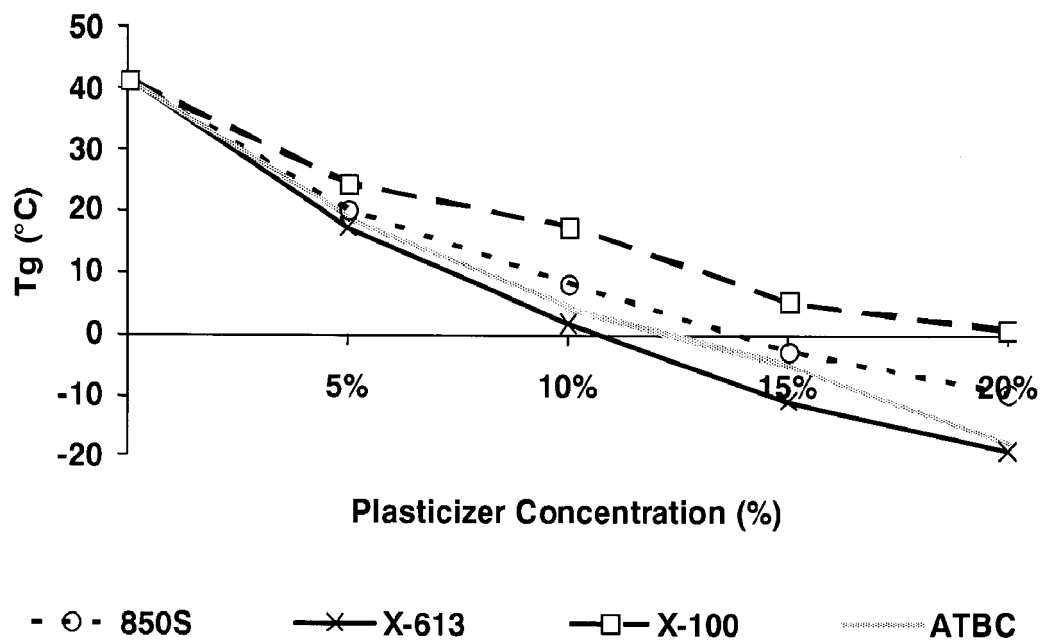


FIG. 20 Glass Transition - Pace 383.

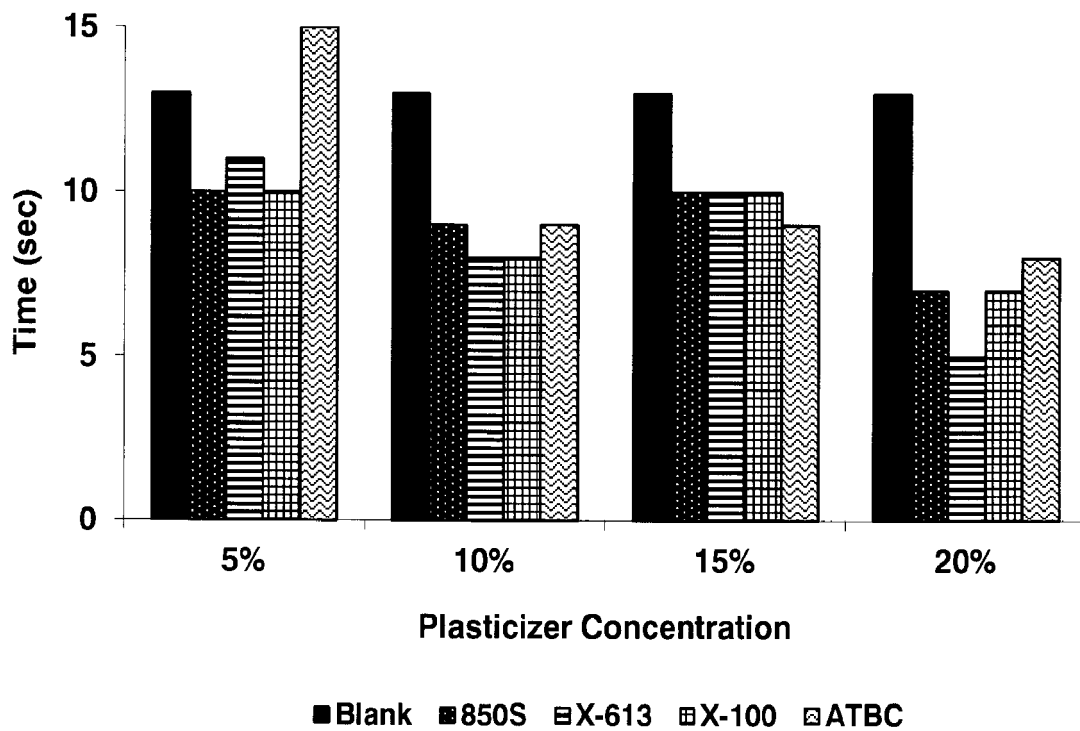


FIG. 21 Set Time - Pace 383

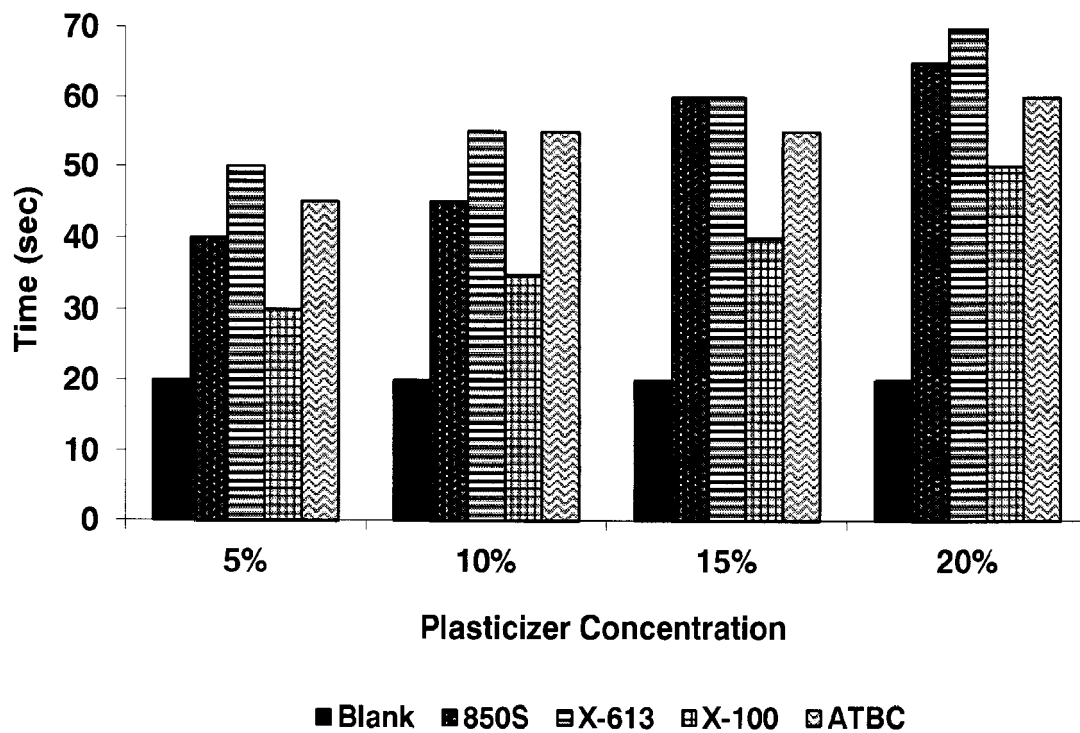


FIG. 22 Open Time - Pace 383

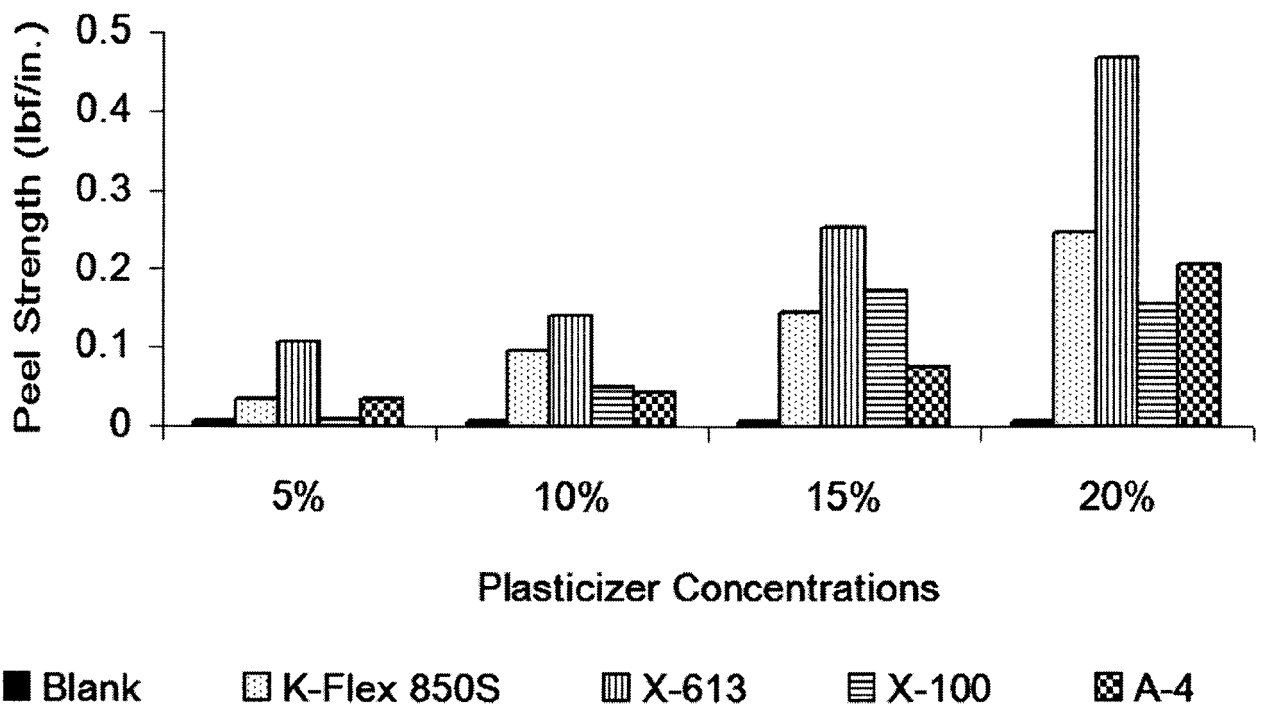


FIG. 23 180° Peel - Cotton to Acrylic (3B), Pace 383

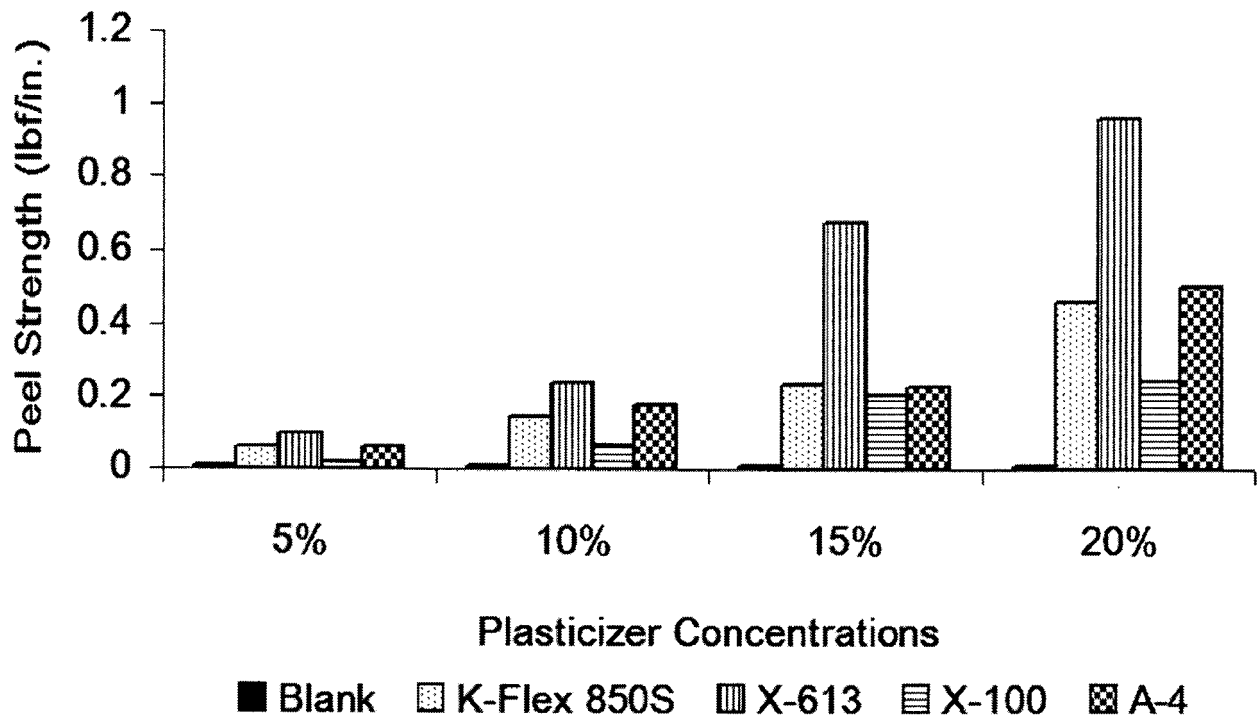


FIG. 24 180° Peel - Cotton to Acrylic (3B), Pace 383 – Trial 2

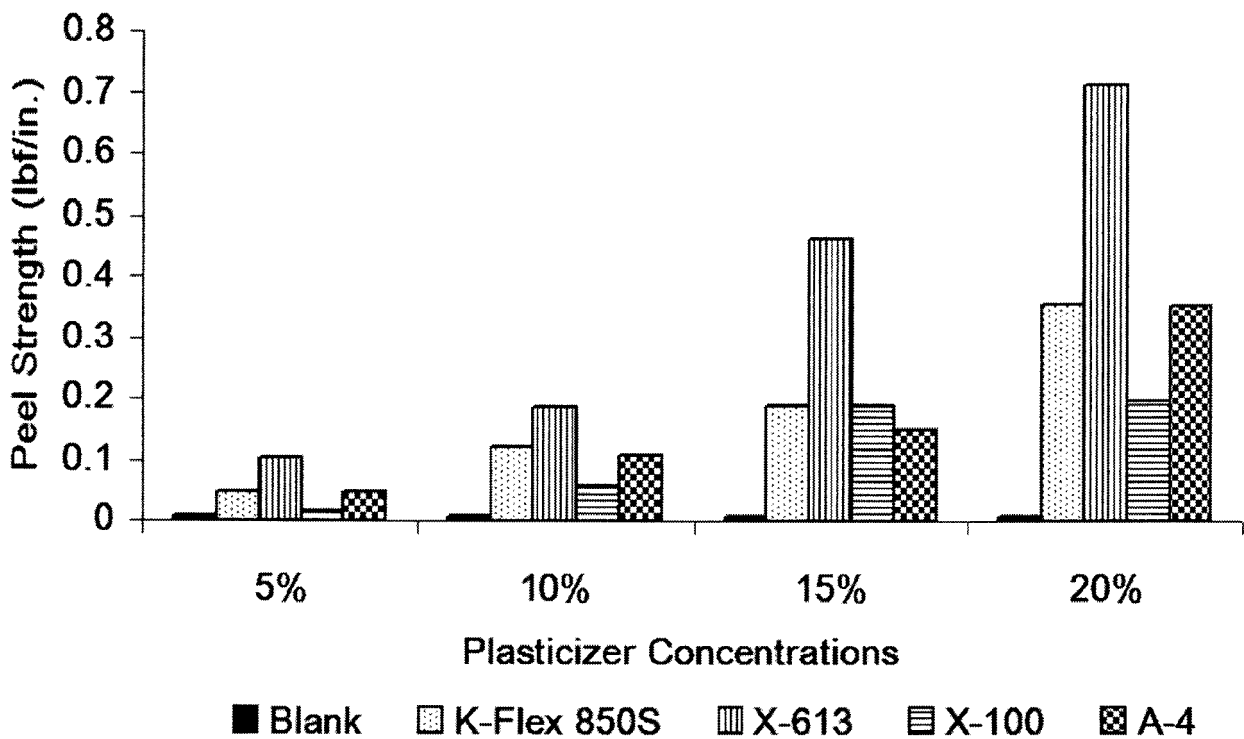


FIG. 25 Comparison of first (A) and second (B) trials of Pace 180° peel of cotton to 3B.

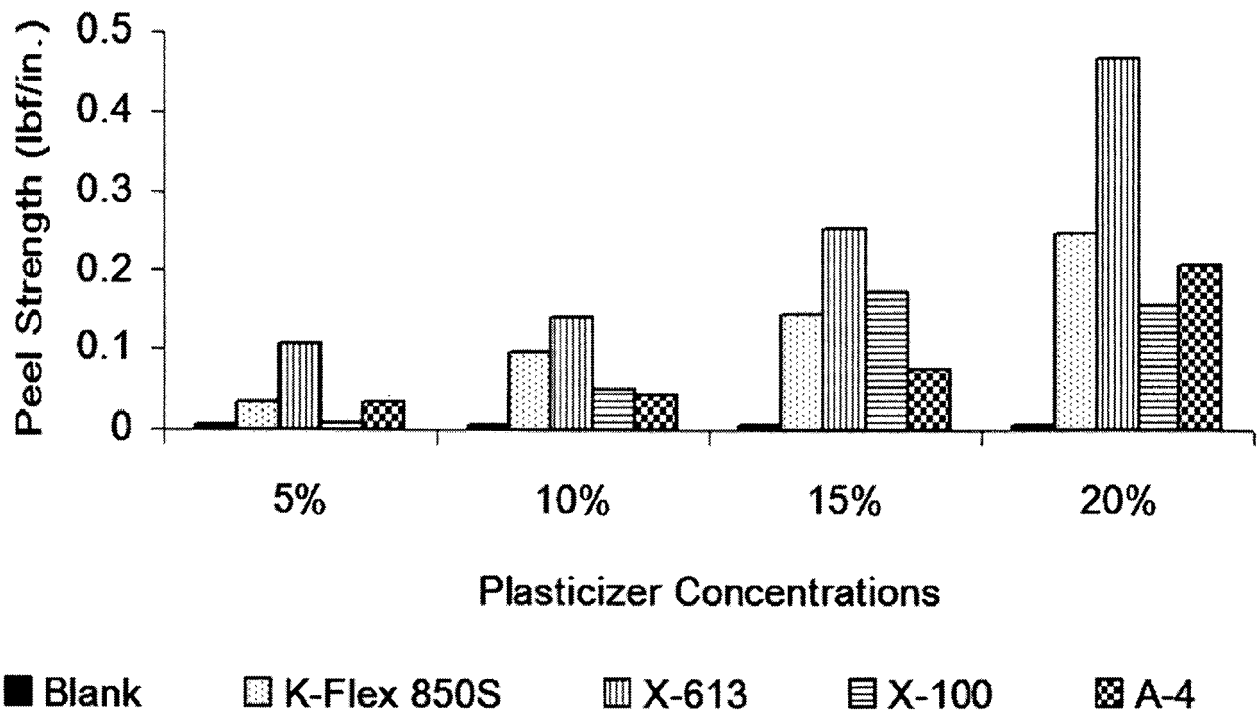


FIG. 26 180° Peel – Cotton to Acrylic (3B), Pace 383

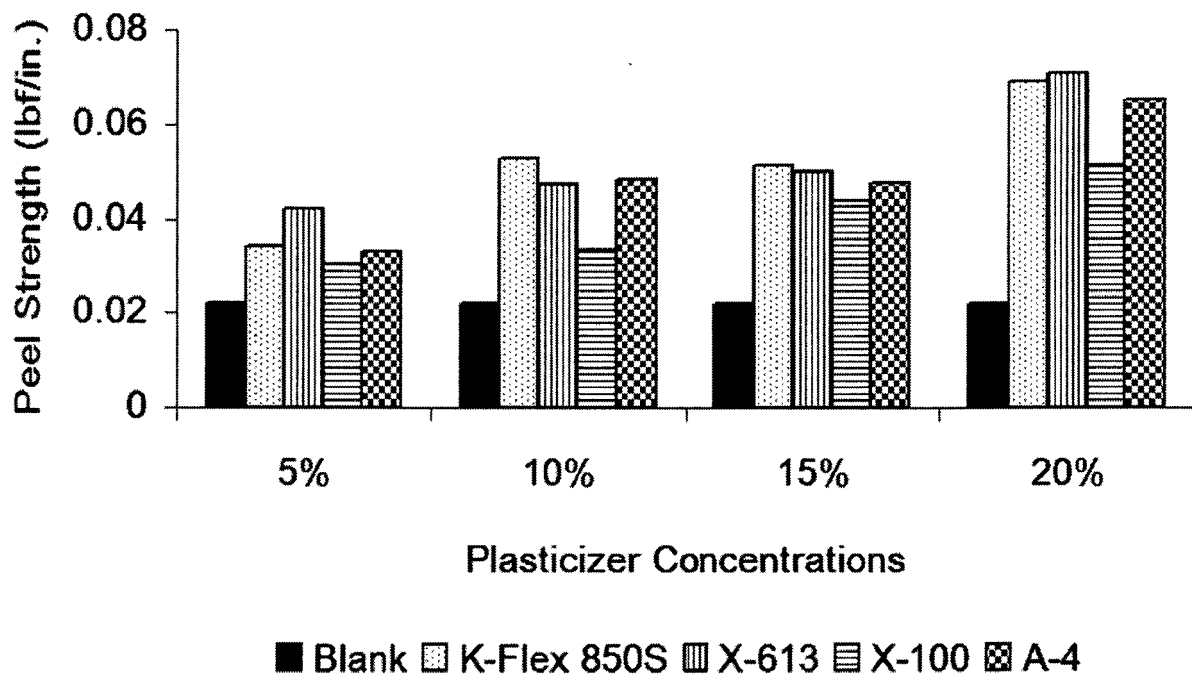


FIG. 27 180° Peel - Cotton to Flexible Vinyl, Pace 383

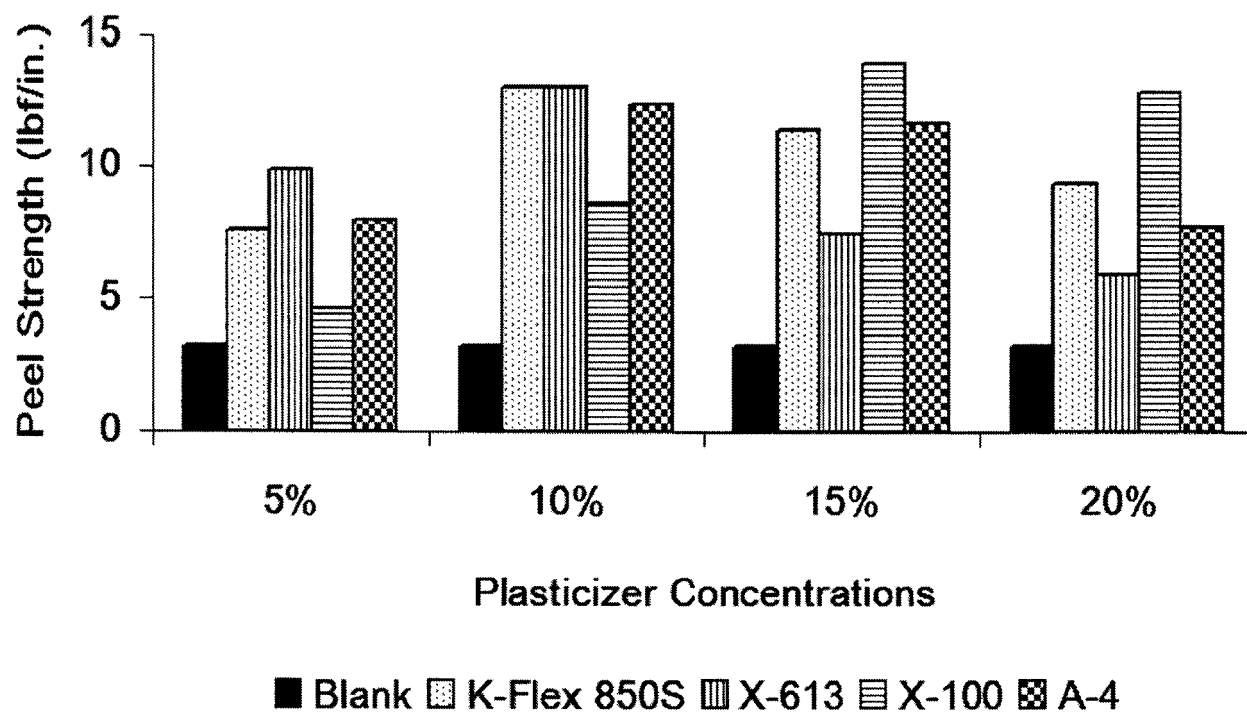


FIG. 28 T-Peel – Cotton to Cotton, Pace 383

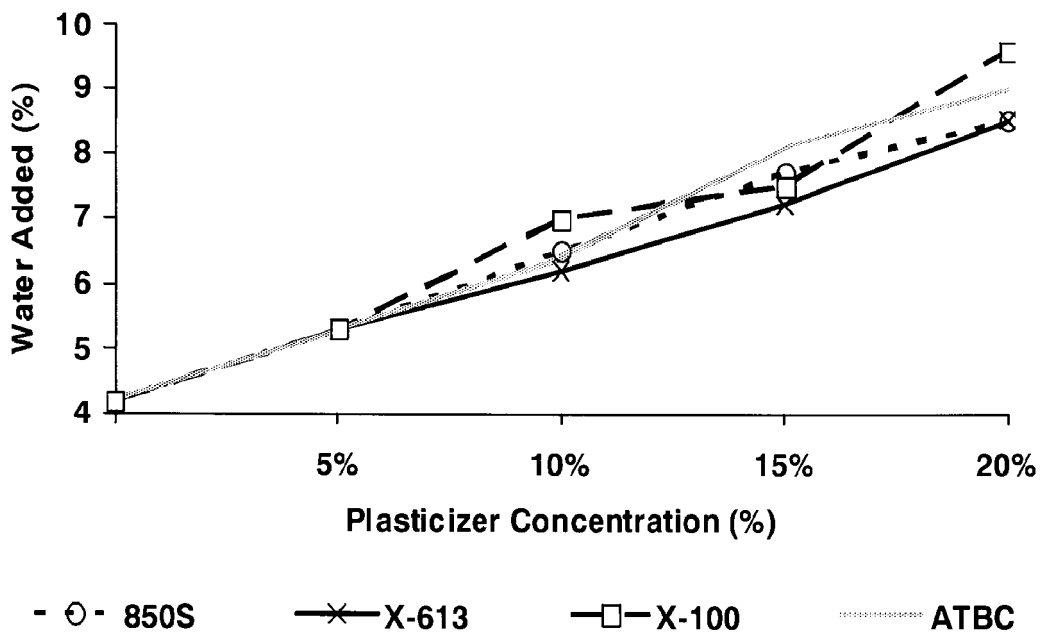


FIG. 29 Water Reduction to 2000 mPa's - Pace 383

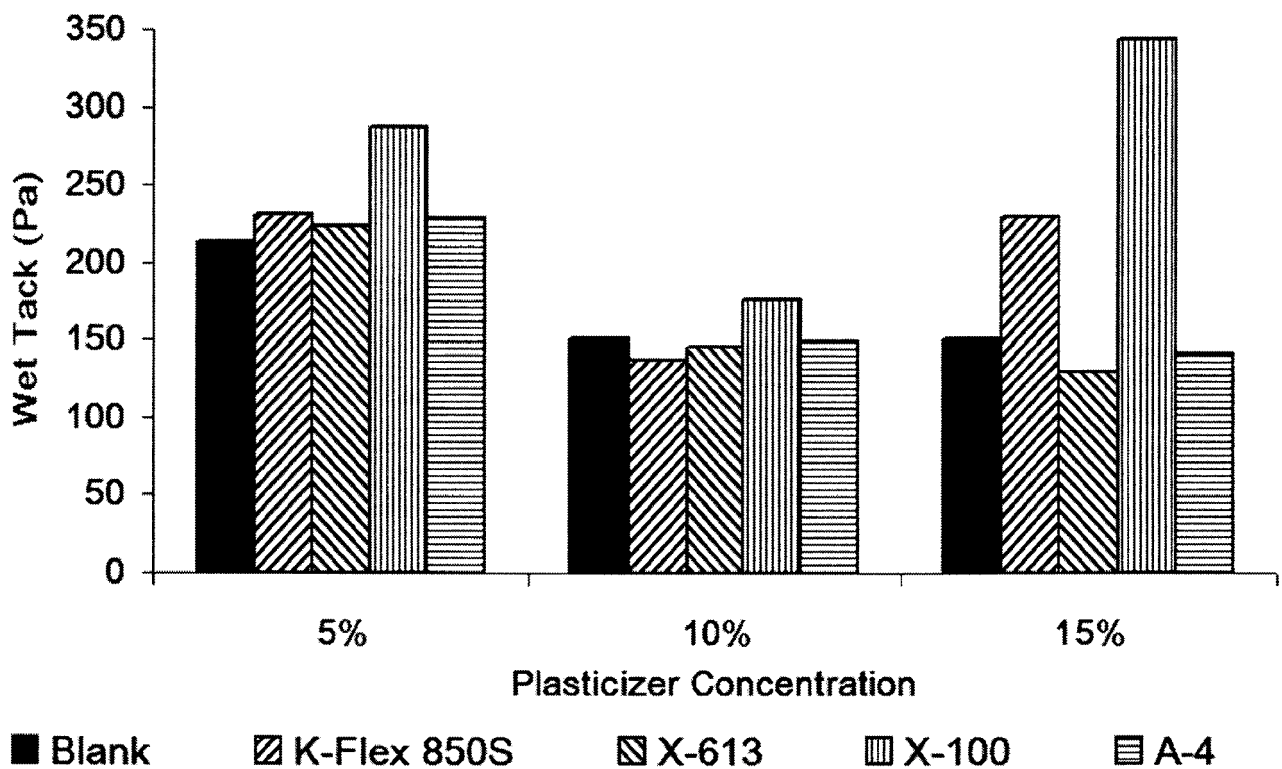


FIG. 30 Hysteresis Loop - Pace 383

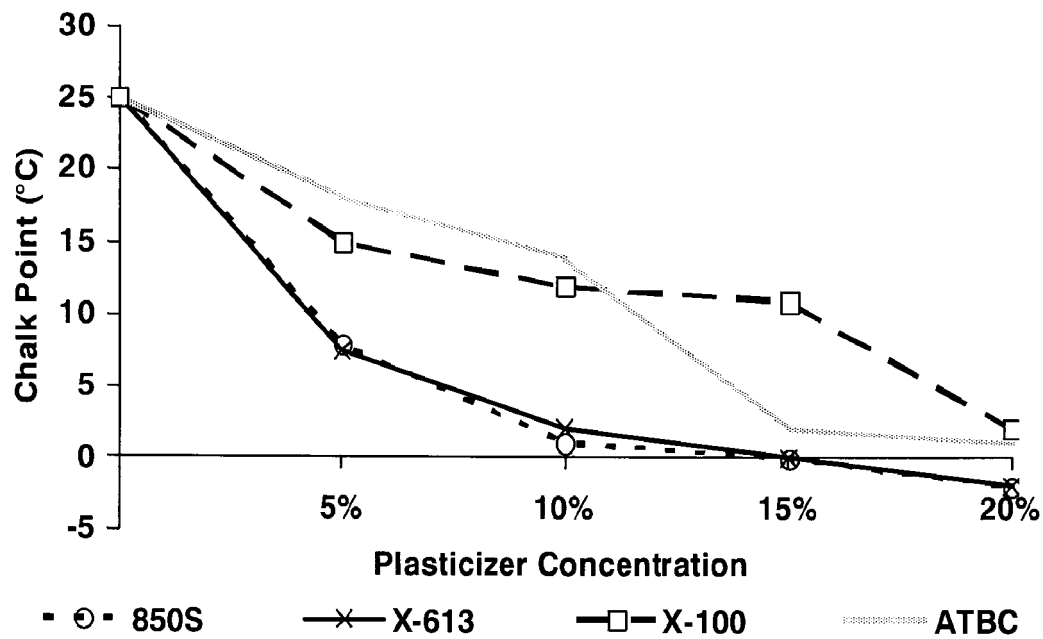


FIG. 31 Chalk Point - Pace 383.

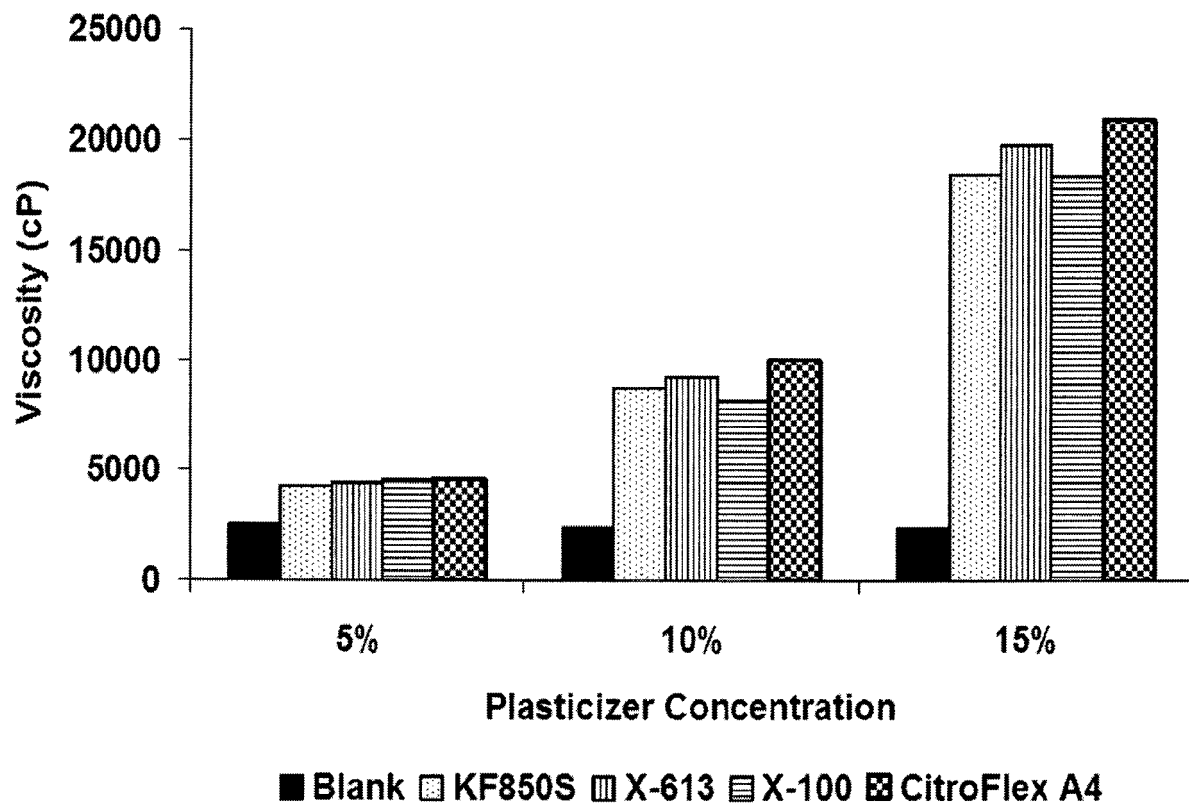


FIG. 32 Initial Viscosity - Elvace 735

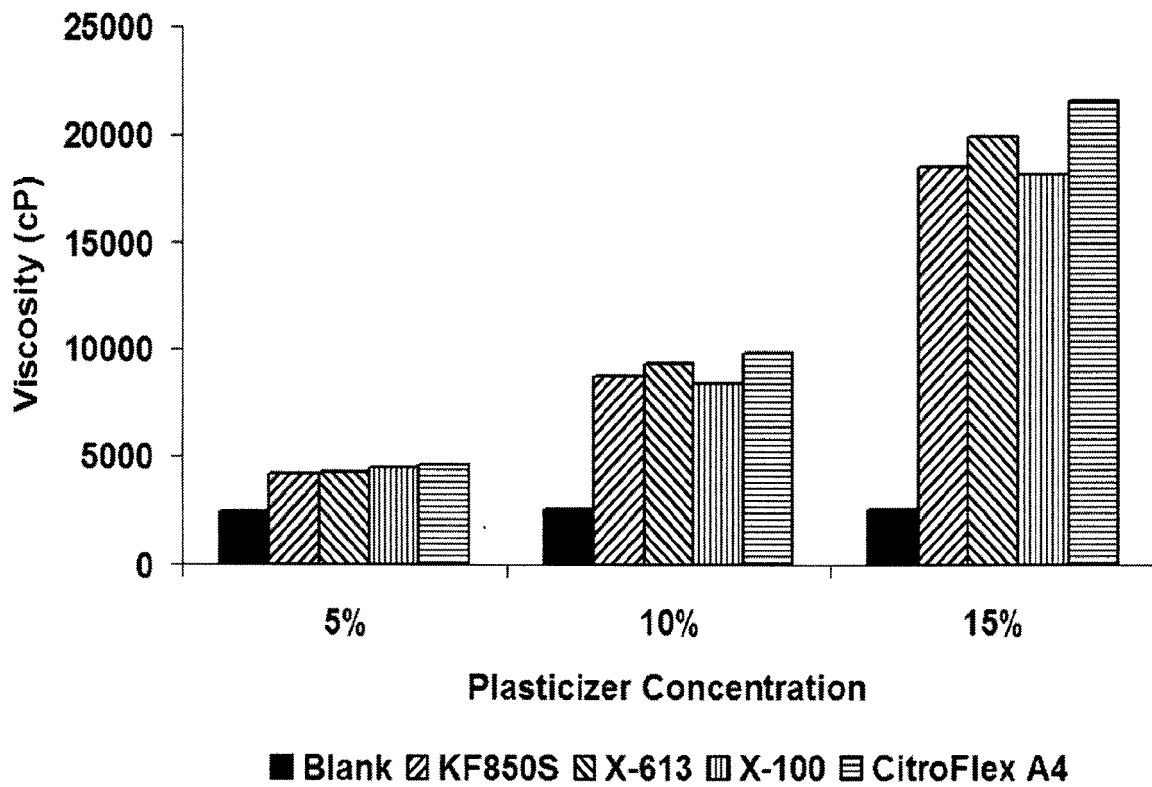


FIG. 33 a – 1 Day Viscosity - Elvace 735

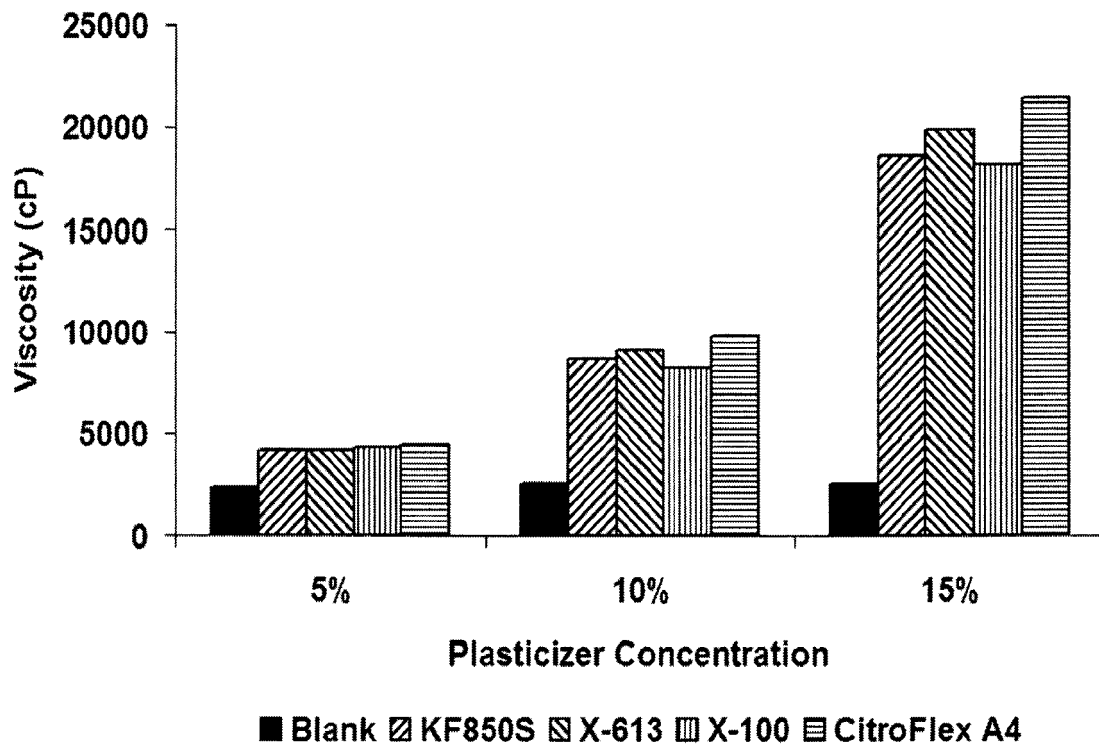


FIG. 33 b 3 Day Viscosity - Elvace 735

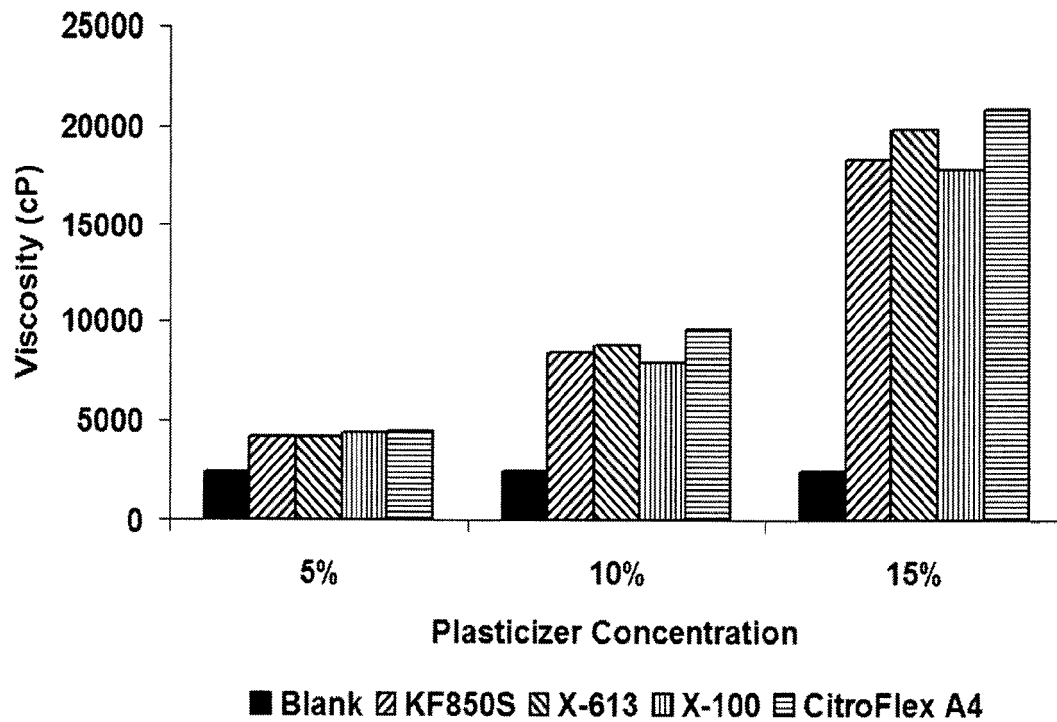


FIG. 34 7 Day Viscosity - Elvace 735

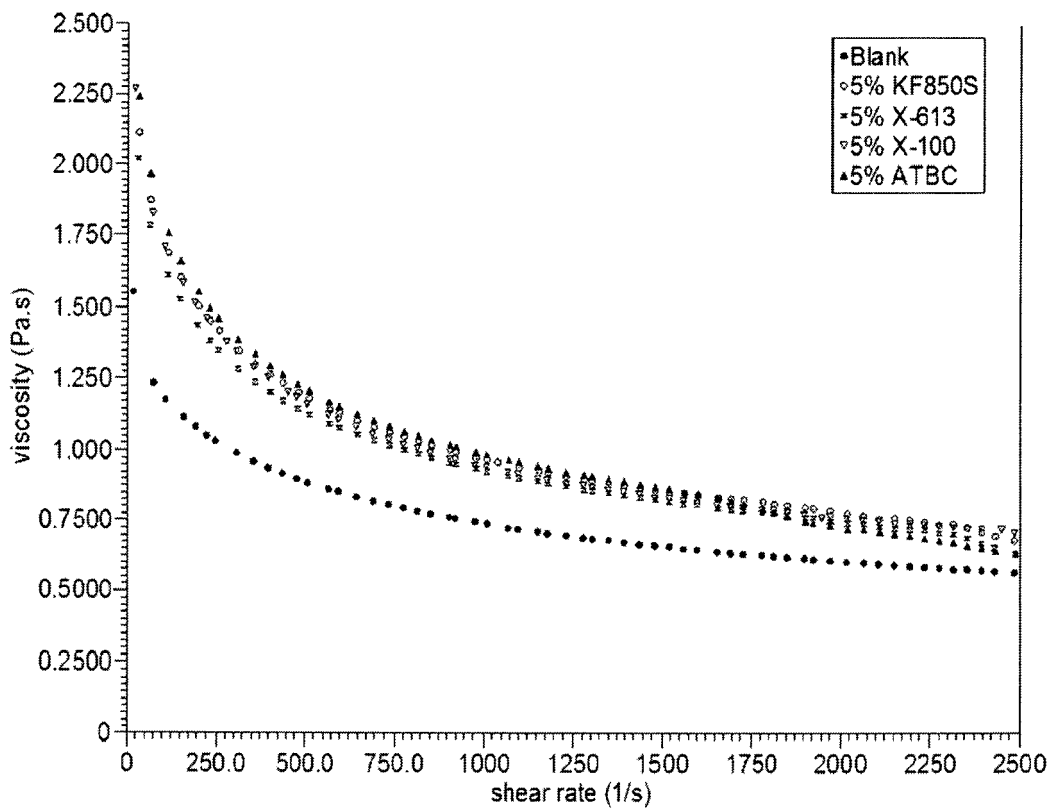


FIG. 35 Shear - 5%, Elvace 735

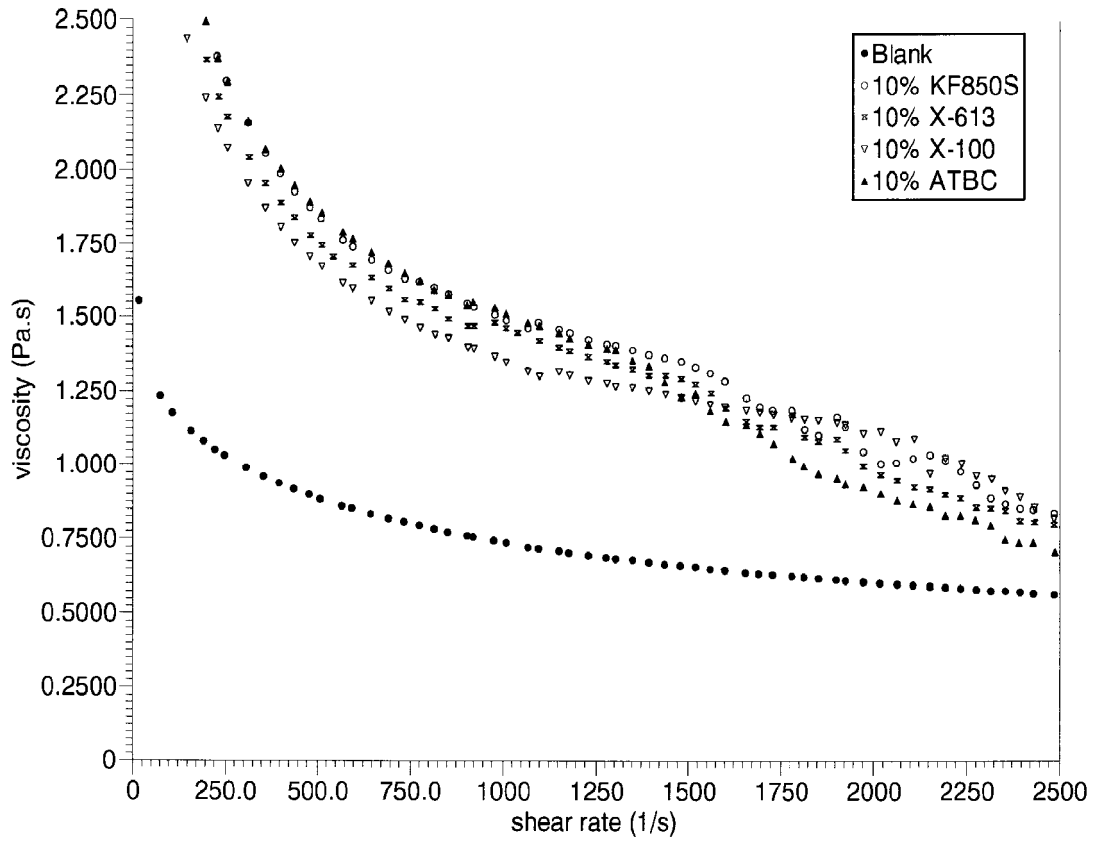


FIG. 36 Shear - 10%, Elvace 735

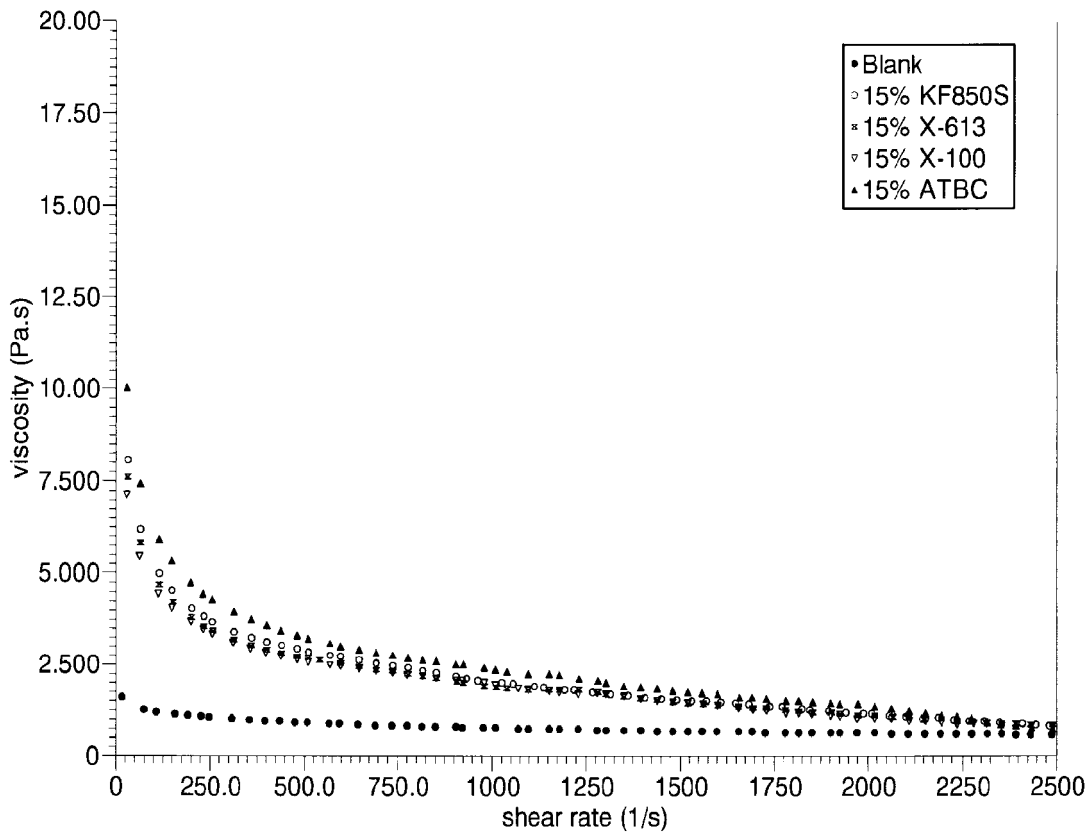


FIG. 37 Shear - 15% Elvace 735

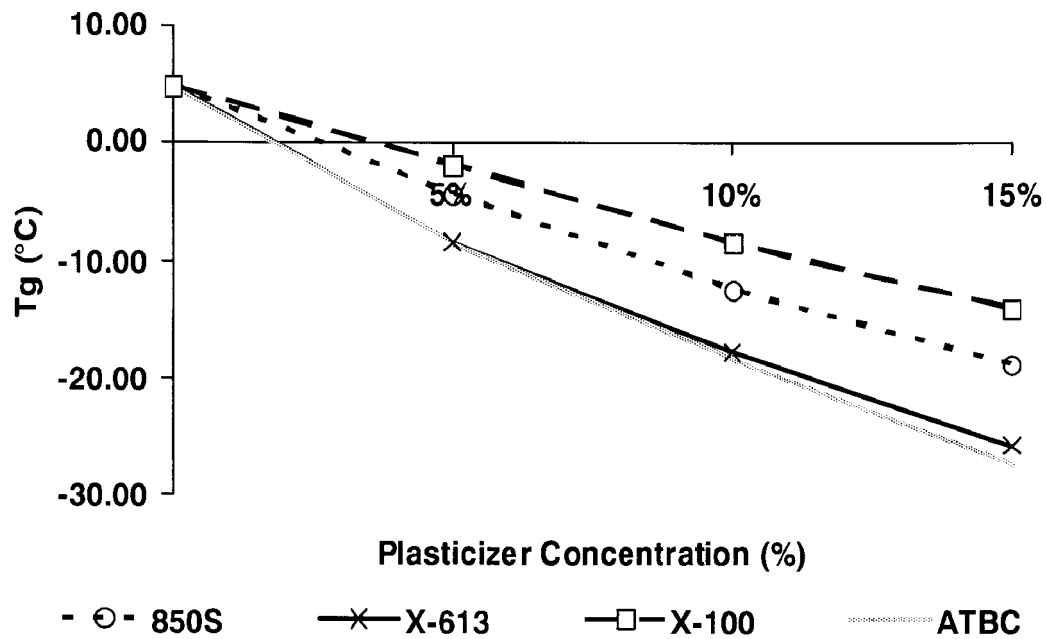


FIG. 38 Glass Transition – Elvace 735

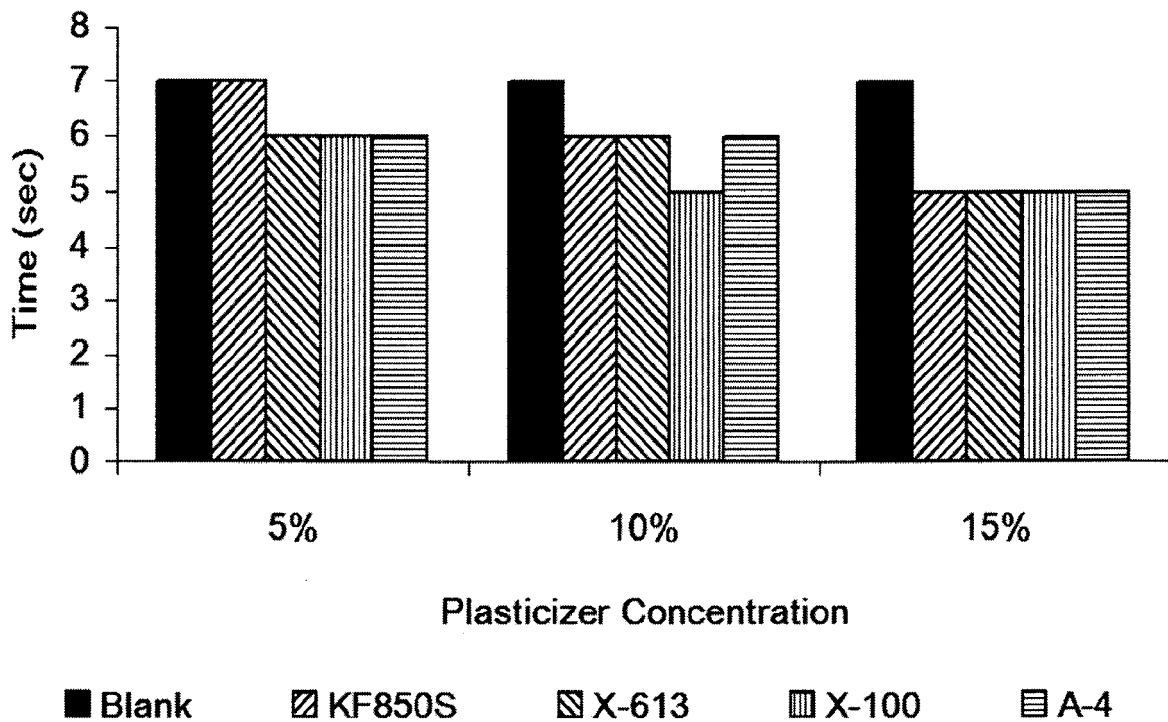


FIG. 39 Set Time - Elvace 735

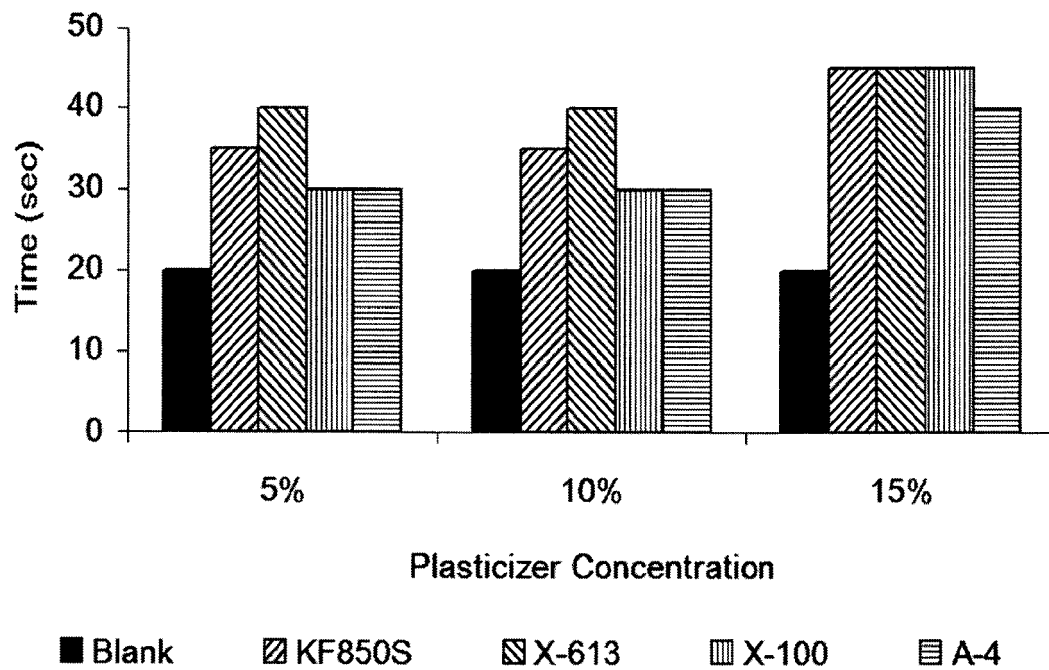


FIG. 40 Open Time - Elvace 735

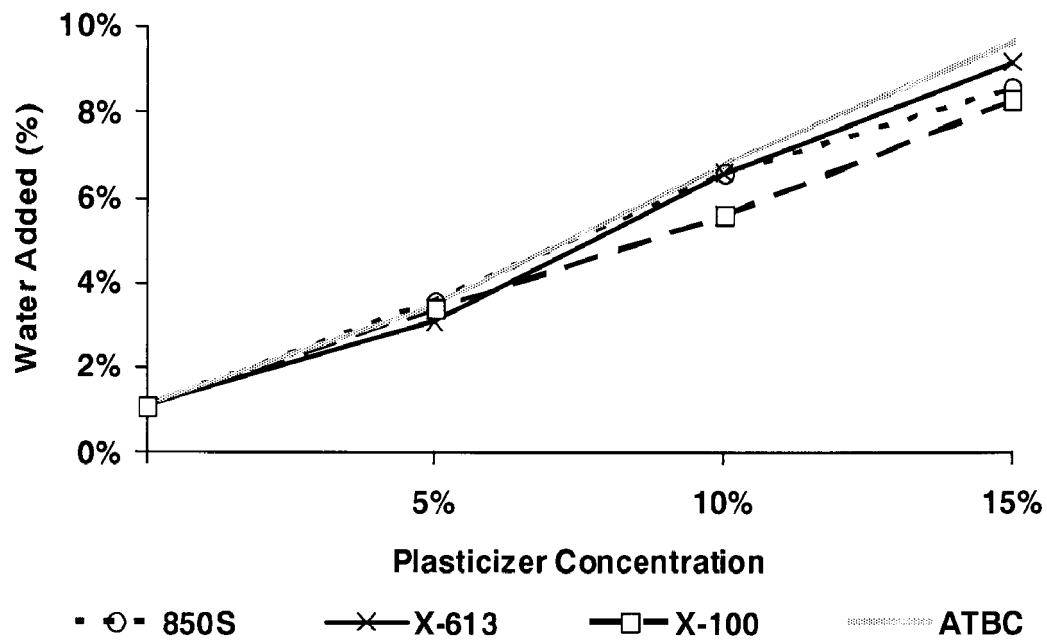


FIG. 41 Water Reduction to 2000 cP - Elvace 735

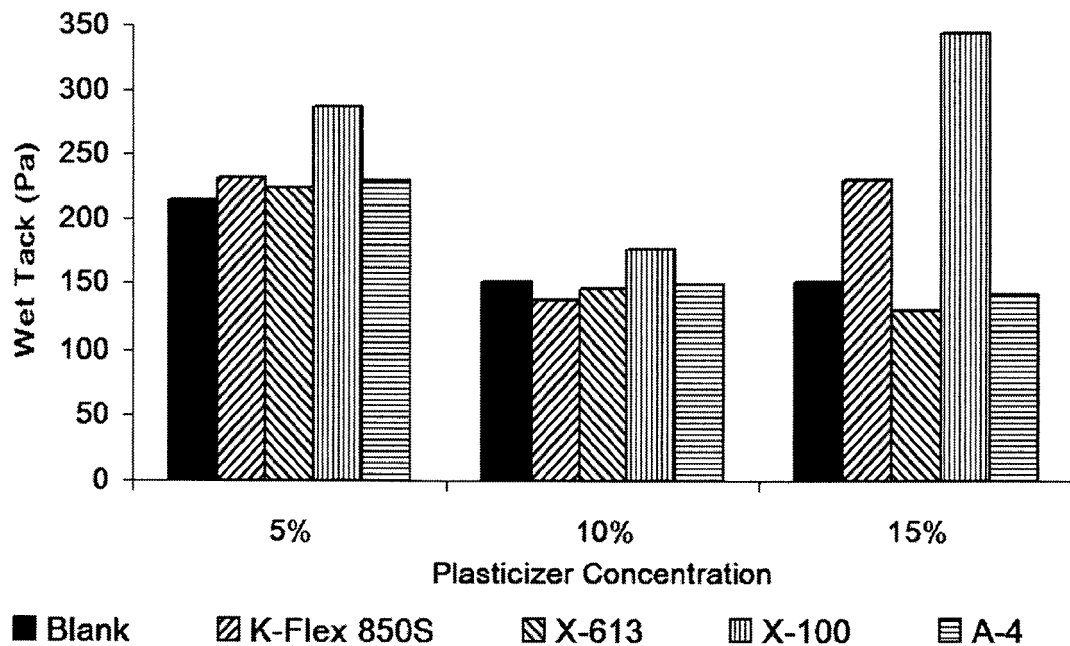
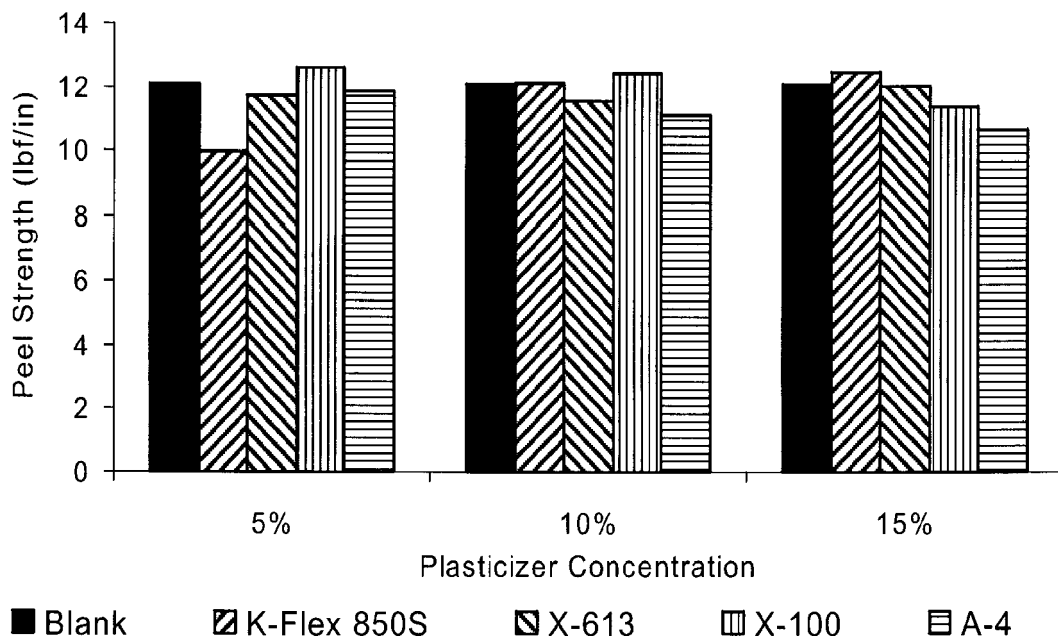
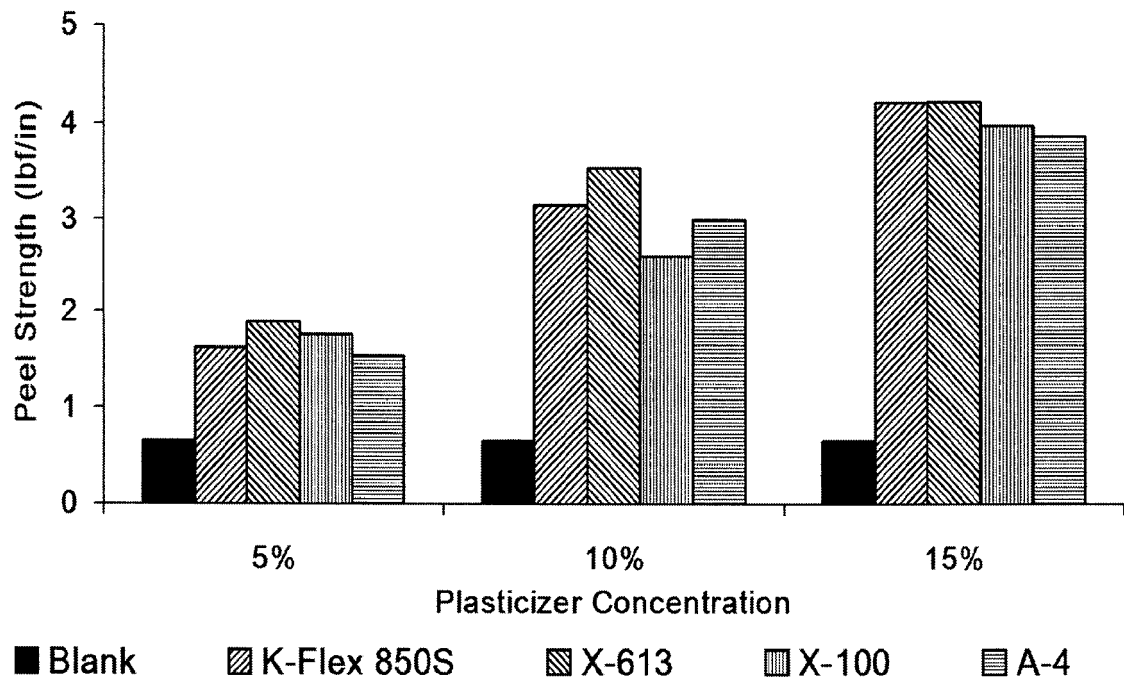


FIG. 42 Hysteresis Loop - Elvace 735



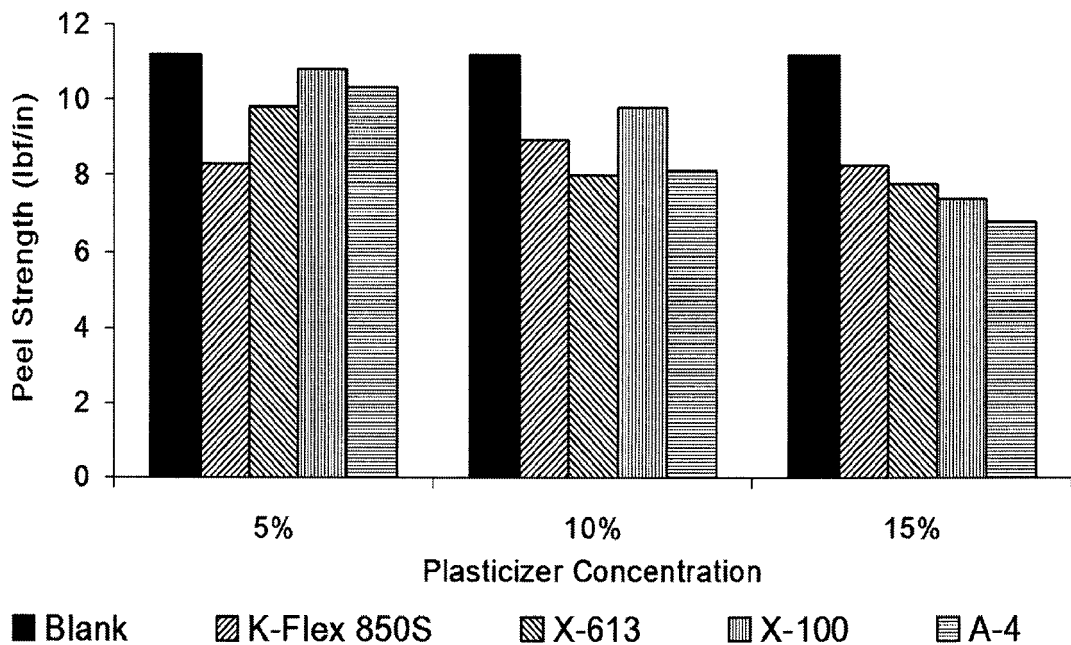
Note: Mode of failure for all samples was adhesive.

FIG. 43 T-Peel – Cotton to Cotton, Elvace 735



Note: Mode of failure for samples was primarily mixed with some adhesive failure.

FIG. 44 T-Peel After 1 Hour Water Soak – Cotton to Cotton, Elvace 735



Note: Mode of failure for samples was primarily mixed with some adhesive failure.

FIG. 45 T-peel Peel Strength Loss After 1 Hour Water Soak – Cotton to Cotton, Elvace 735

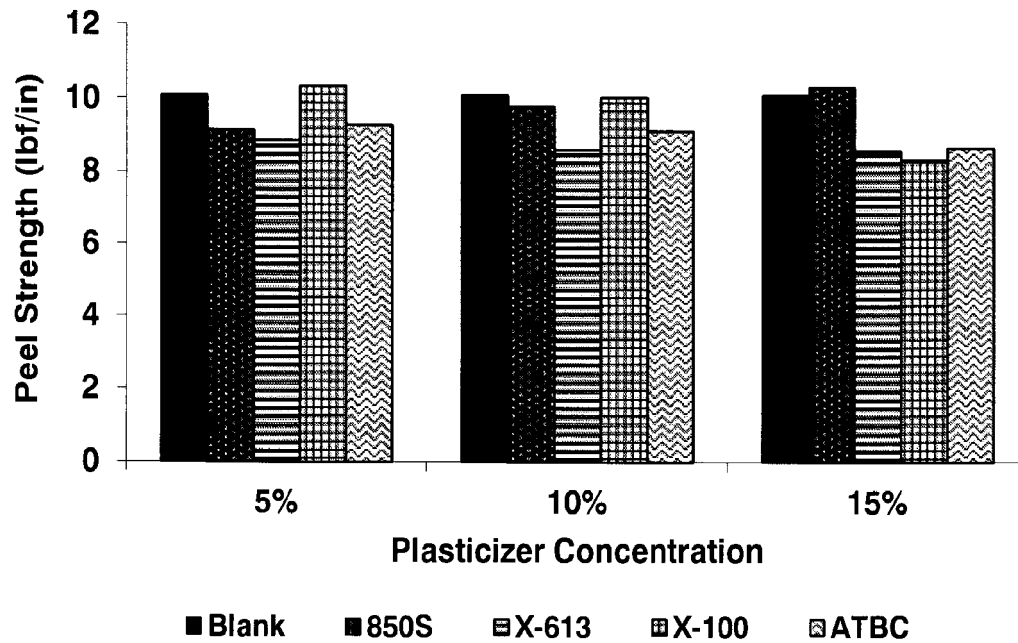


FIG. 46 180° Peel - Flexible PVC to Luan, Elvace 735

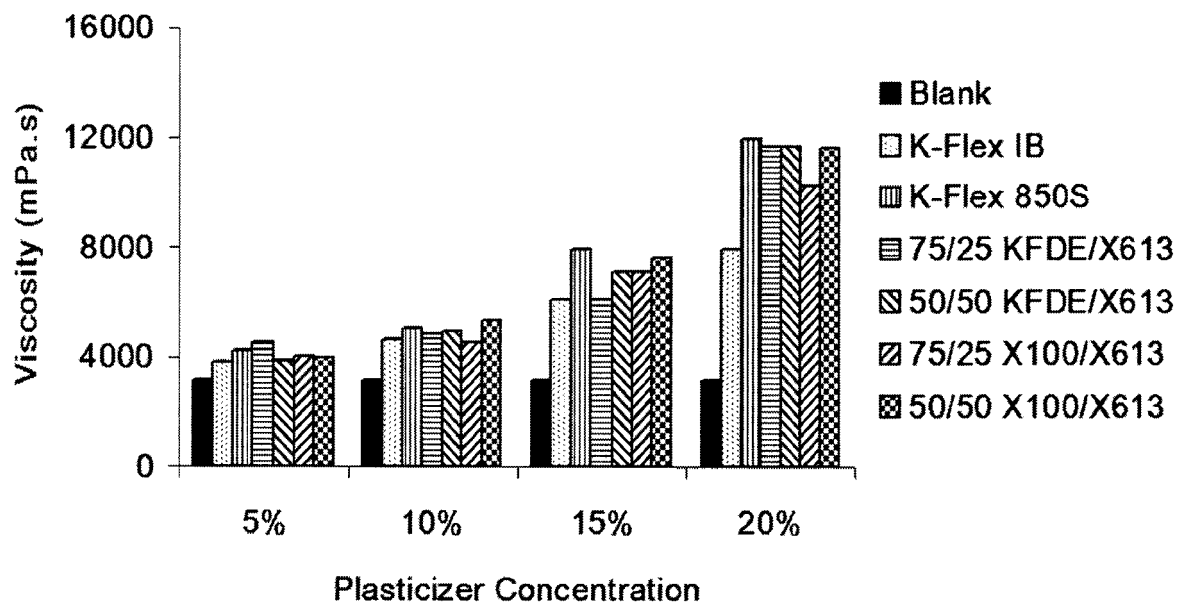


FIG. 47 Initial Viscosity – Elvace 735, Monobenzoate Blends

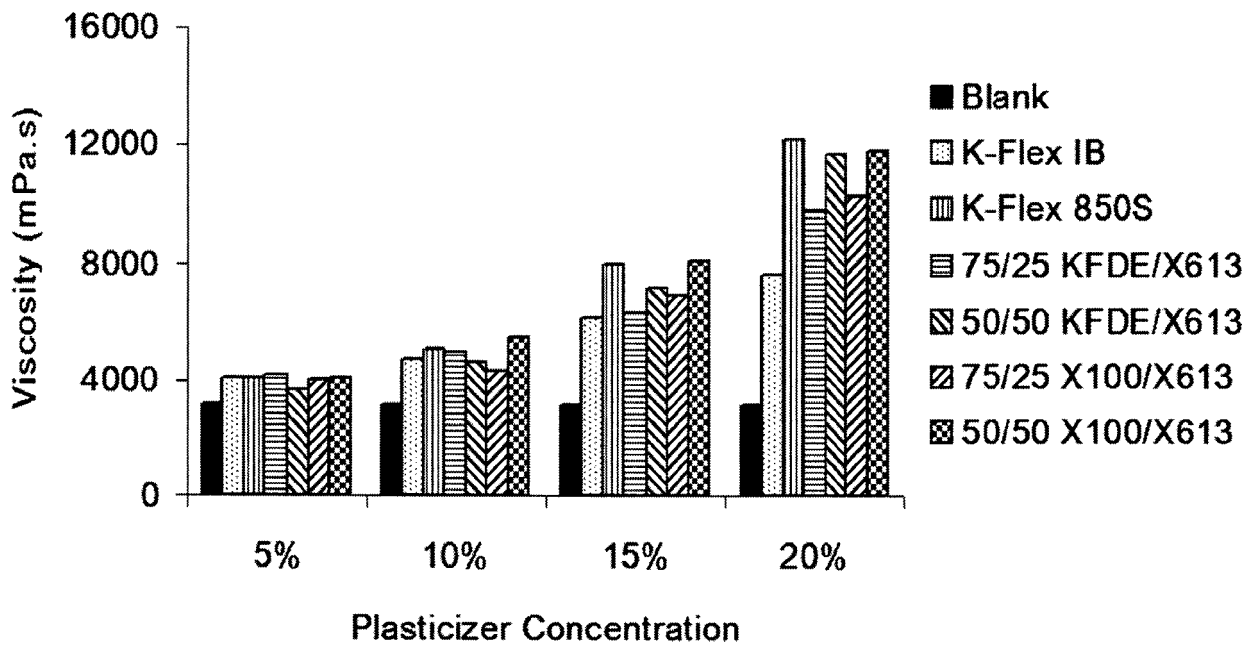


FIG. 48 1 Day Viscosity – Elvace 735, Monobenzoate Blends

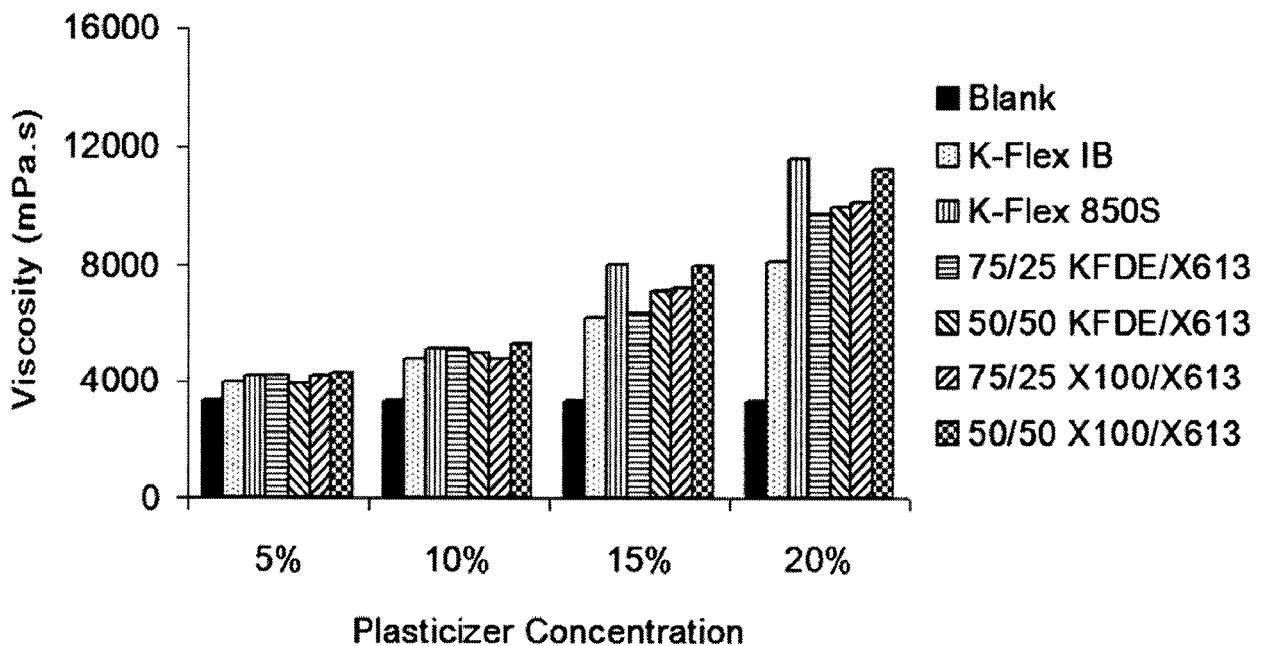


FIG. 49 3 Day Viscosity – Elvace 735, Monobenzoate Blends

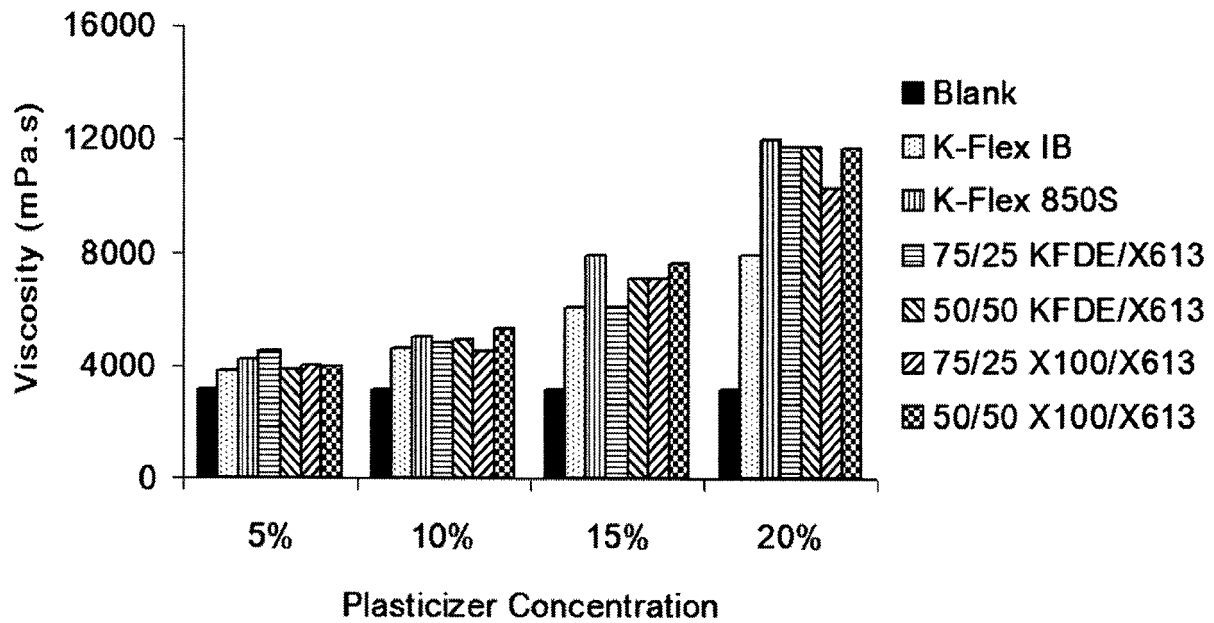


FIG. 50 Initial Viscosity - Pace 383, Monobenzoate Blends

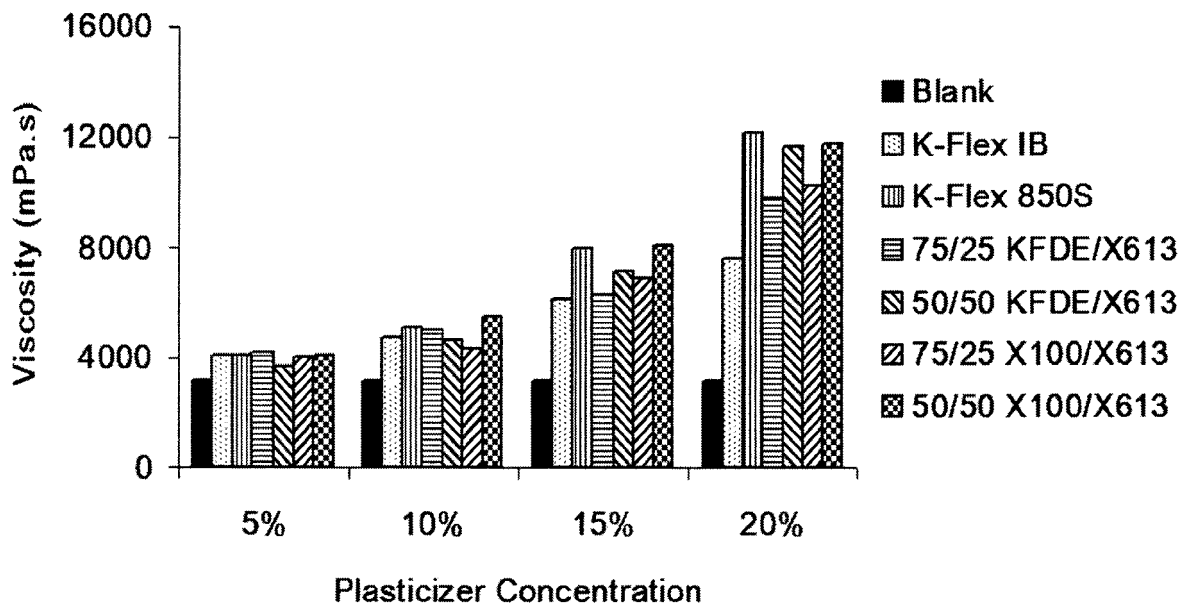


FIG. 51 1 Day Viscosity - Pace 383, Monobenzoate Blends

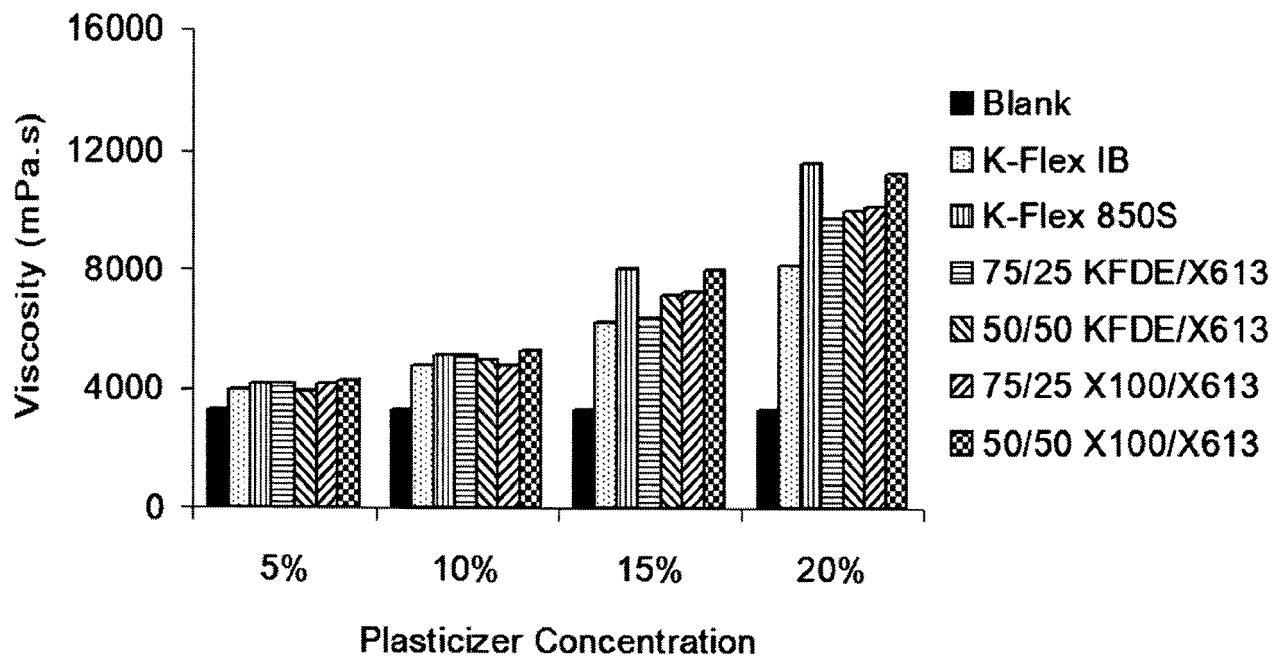


FIG. 52 3 Day Viscosity - Pace 383, Monobenzoate Blend

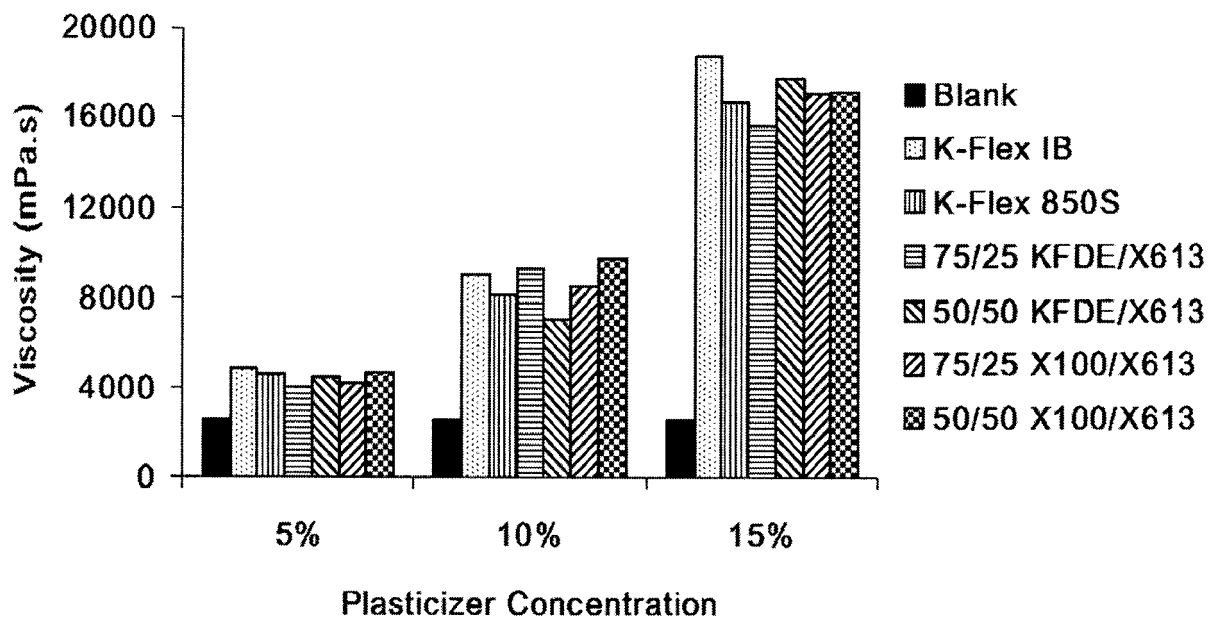


FIG. 53 1 Week Viscosity – Elvace 735, Monobenzoate Blends

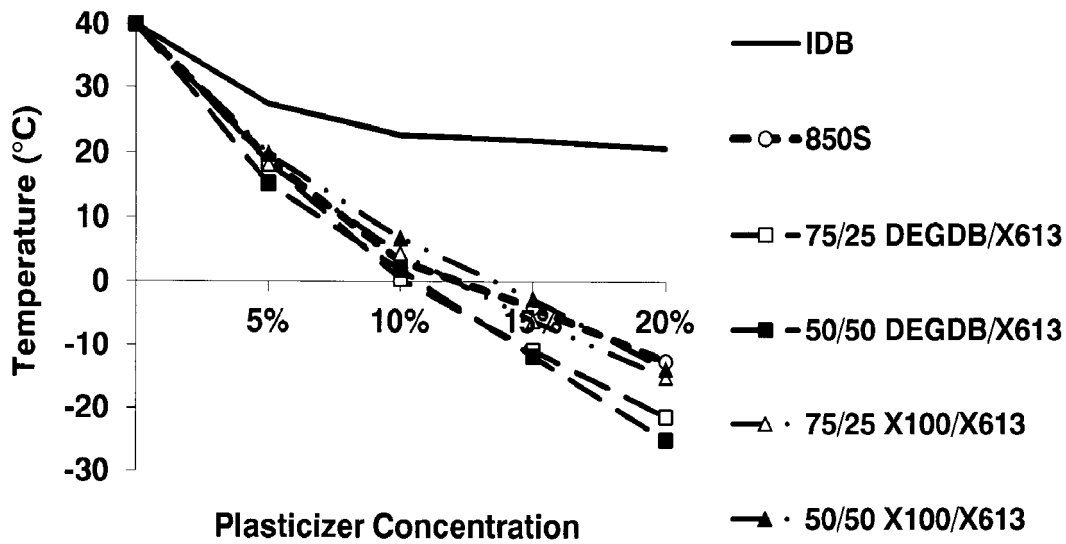


FIG. 54 Glass Transition Temperature – Pace 383, Monobenzoate Blends

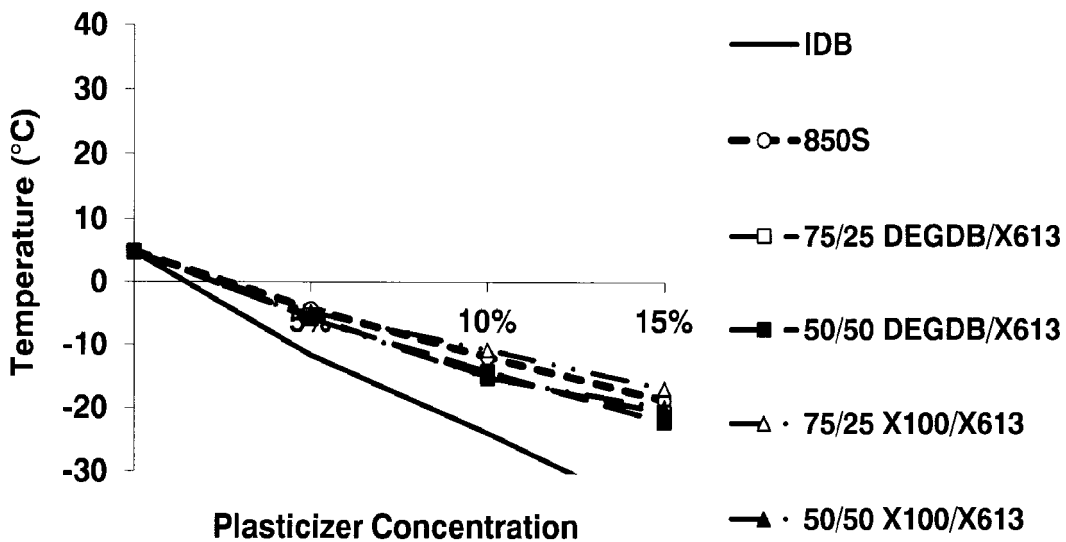


FIG. 55 Glass Transition Temperature – Elvace 735, Monobenzoate Blends

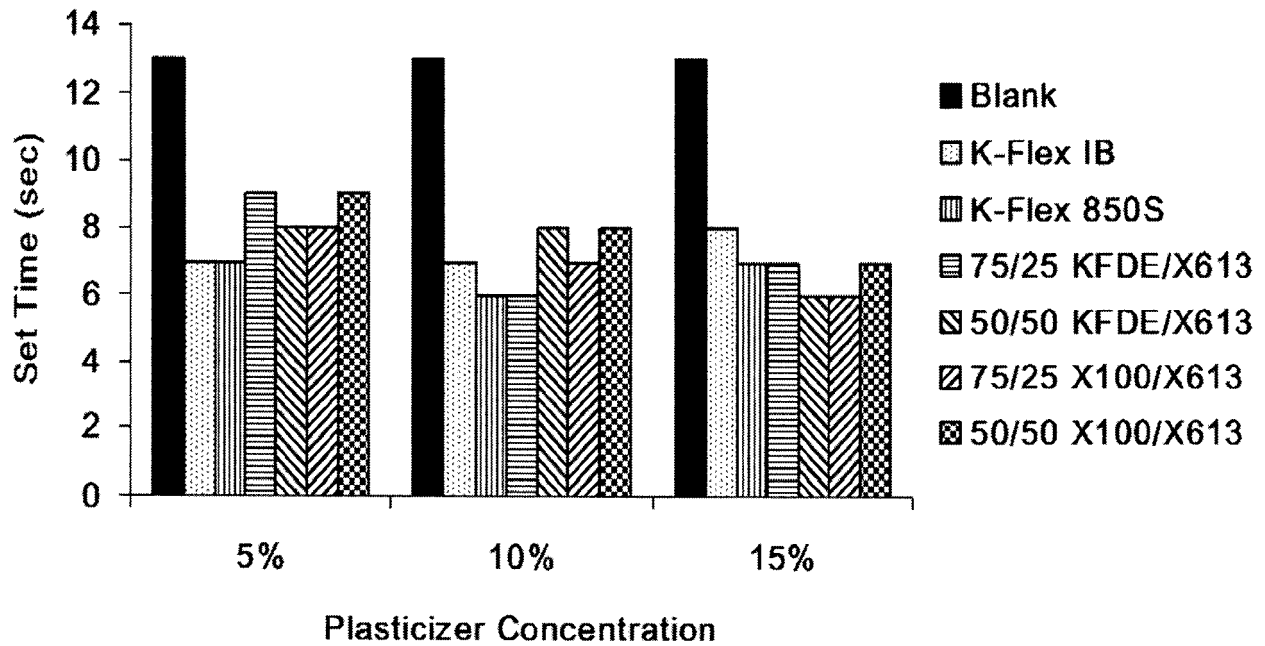


FIG. 56 Set Time - Elvace 735, Monobenzoate Blends

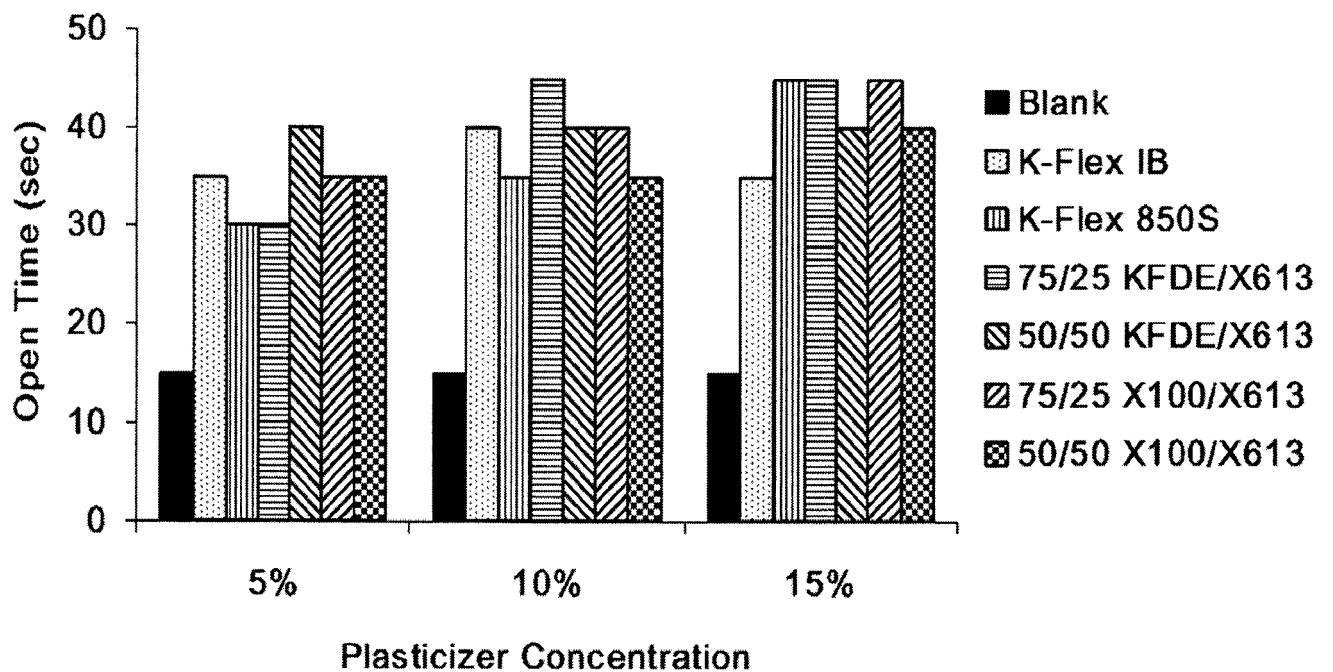


FIG. 57 Open Time – Elvace 735, Monobenzoate Blends

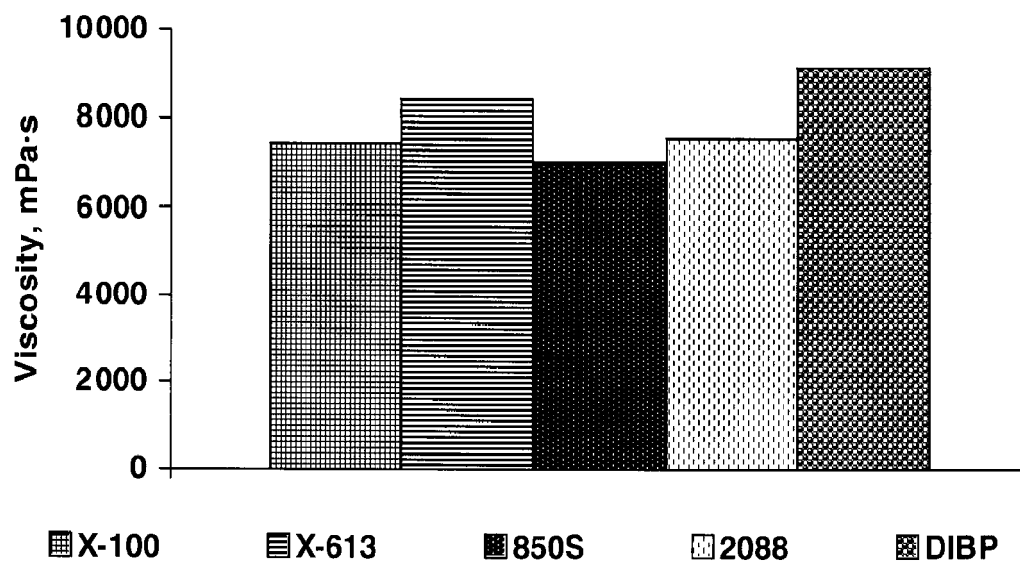


FIG. 58 Packaging Glue – Initial Viscosities

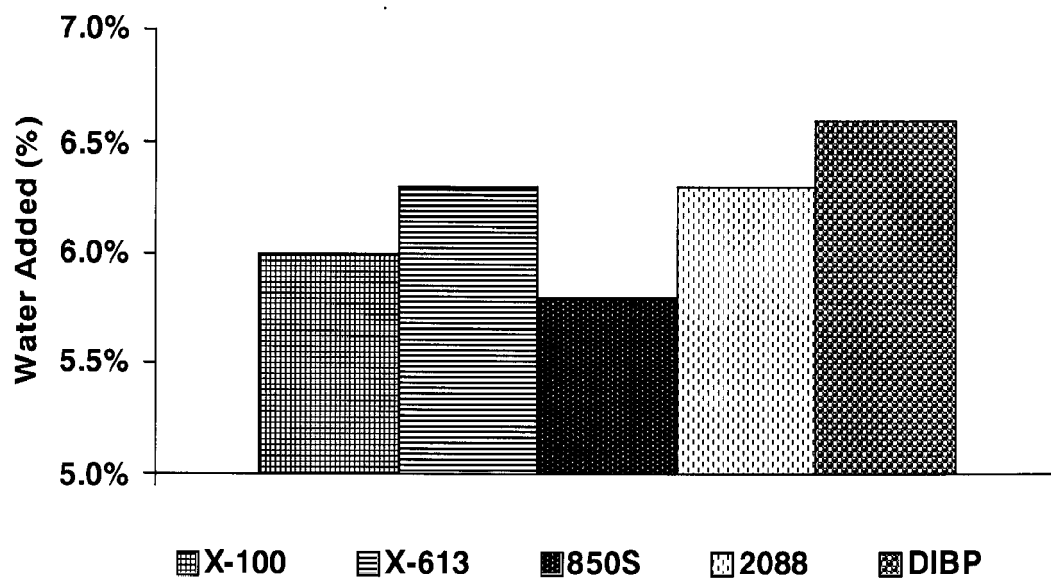


FIG. 59 Packaging Glue – Water Reduction

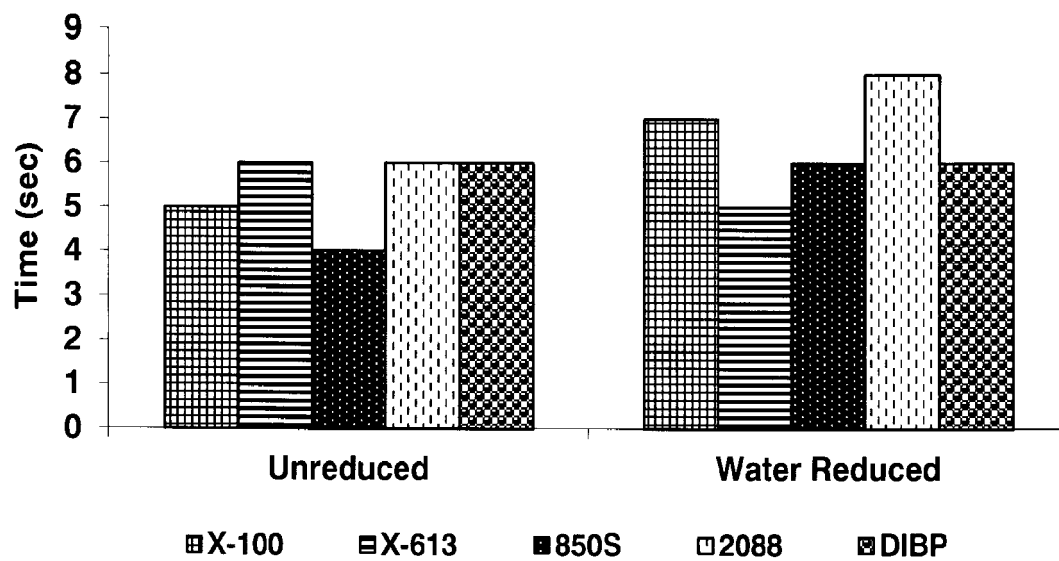


FIG. 60 Packaging Glue – Set Time, Kraft to Kraft

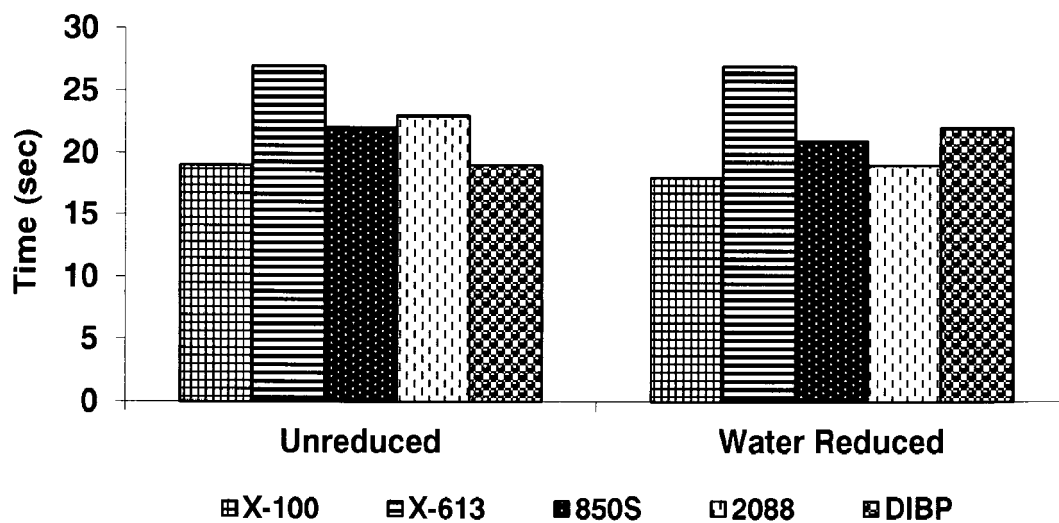


FIG. 61 Packaging Glue – Set Time, Kraft to Mylar

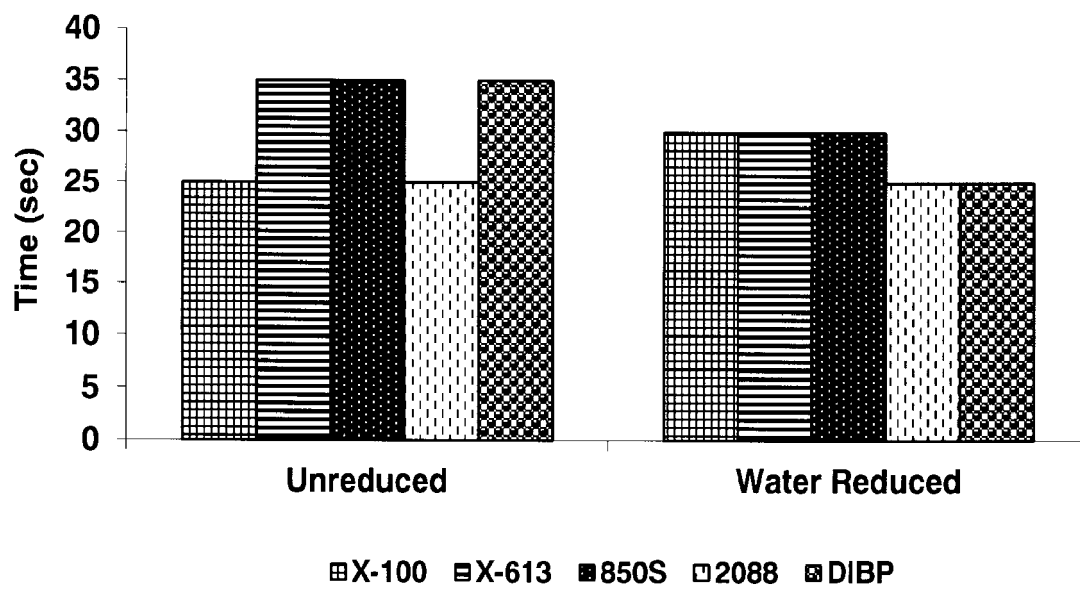


FIG. 62 Packaging Glue – Open Time