



Self Healing Acrylates

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Product Description and Application

Product Name	Description & Key Features	Application
LP-2502	Aliphatic urethane diacrylate Low shrinkage Good adhesion to substrate Excellent flexibility Light color Non yellowing	Good adhesion coatings UV adhesives
LP-2552	Aliphatic urethane diacrylate Low odor High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion
LP-2588	Aliphatic urethane diacrylate Low odor, High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc. Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion
LP-2589	Aliphatic urethane diacrylate Low odor, High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc. Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion
LP-2590	Aliphatic urethane diacrylate Low odor, High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc. Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion



Product Description and Application

Product Name	Description & Key Features	Application
LP-2591	aliphatic urethane diacrylate Low odor, High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc. Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion
LP-2592	aliphatic urethane diacrylate Low odor, High molecular weight Excellent flexibility Good adhesion to substrate High elongation Low shrinkage Non yellowing	Adhesives for film, plastics, and paper etc. Coatings for woods, papers, and plastics Coatings for flexible substrates Coatings requiring good adhesion
LP-6019		
LP-6020		
LP-6021		



Wet Physical Properties

Properties	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590
Functionality No.	2	2	2	2	2
Diluent(%)	-	IBOA 20	HDDA 10	HDDA 10	IBOA 10
Color(APHA)	100 max	200 max	100 max	100 max	100 max
Refractive Index (25°C)	1.478	1.476	1.488	1.488	1.488
Viscosity (CPS, 25°C)	1,300 (60°C)	226,000 (40°C)	6,200 (60°C)	10,000 (60°C)	7,000 (60°C)
Polymer solid(%)	100	80	90	90	90
Molecular Weight(Mw, g/mol)	12,700	20,300			



Wet Physical Properties

Properties	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
Functionality No.	2	2	6	6	6
Diluent(%)	IBOA 20	IBOA	-	-	-
Color(APHA)	100 max	100 max	100 max	100 max	100 max
Refractive Index (25°C)	1.488	1.488	1.493	1.490	1.488
Viscosity (CPS, 25°C)	7,000 (60°C)	32,000	61,200	27,000	32,000
Polymer solid(%)	80	80	100	100	100
Molecular Weight(Mw, g/mol)			2,800	3,900	5,100



Cured Physical Properties

Properties	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590
Reactivity	1	3			
Hardness	1	3			
Flexibility	5	3			
Adhesion	5	3			
Chemical Resistance	2	1			
Scratch Resistance	1	3			

*** Physical properties index**

- 1 Very low
- 2 Low
- 3 Moderate
- 4 Good
- 5 Very good



Cured Physical Properties

Properties	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
Reactivity					
Hardness					
Flexibility					
Adhesion					
Chemical Resistance					
Scratch Resistance					

*** Physical properties index**

- 1 Very low
- 2 Low
- 3 Moderate
- 4 Good
- 5 Very good



Cured Physical Properties

Products	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590
Gel contents (MEK,%)	96	76	88	89	91
Cure speed (mJ/cm ²)	4,530	1,360	450	450	1,360
Pencil Hardness	6B	2H	F	H	6B
Tensile Strength (psi)	40	520	1,080	470	620
Elongation(%)	20	290	87	82	120
Solvent resistance	40	5	100	100	30
Yellow Index (ΔE)	1.1	3.8	1.7	1.8	4.0
Gloss	132	127	128	131	126



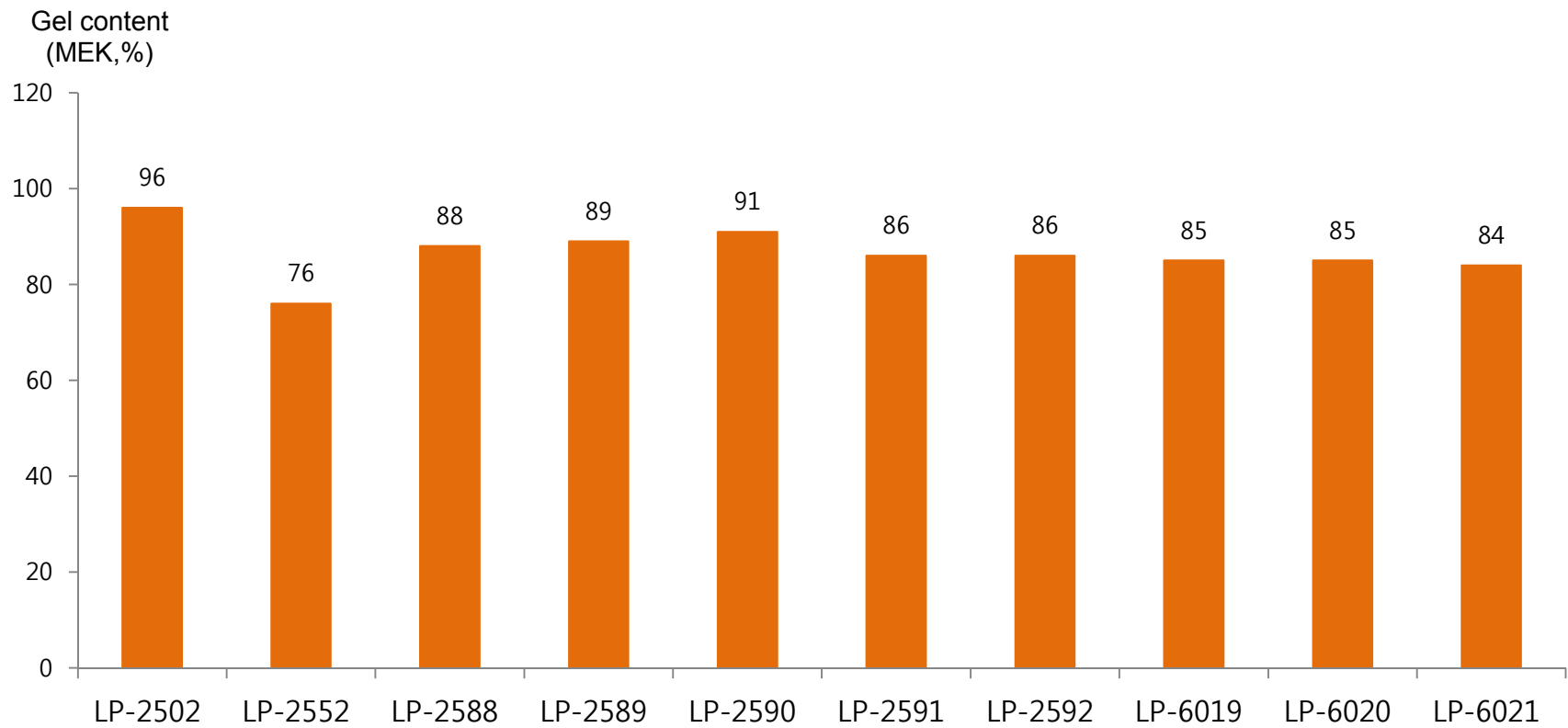
Cured Physical Properties

Products	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
Gel contents (MEK,%)	86	86	85	85	84
Cure speed (mJ/cm ²)	2,260	1,360	450	450	450
Pencil Hardness	6B	6B	5H	4H	3H
Tensile Strength (psi)	520	320	2,600	1,940	2,040
Elongation(%)	390	65	3	2	5
Solvent resistance	10	100	100	100	40
Yellow Index (ΔE)	3.0	1.4	4.6	3.0	3.0
Gloss	127	129	131	130	128



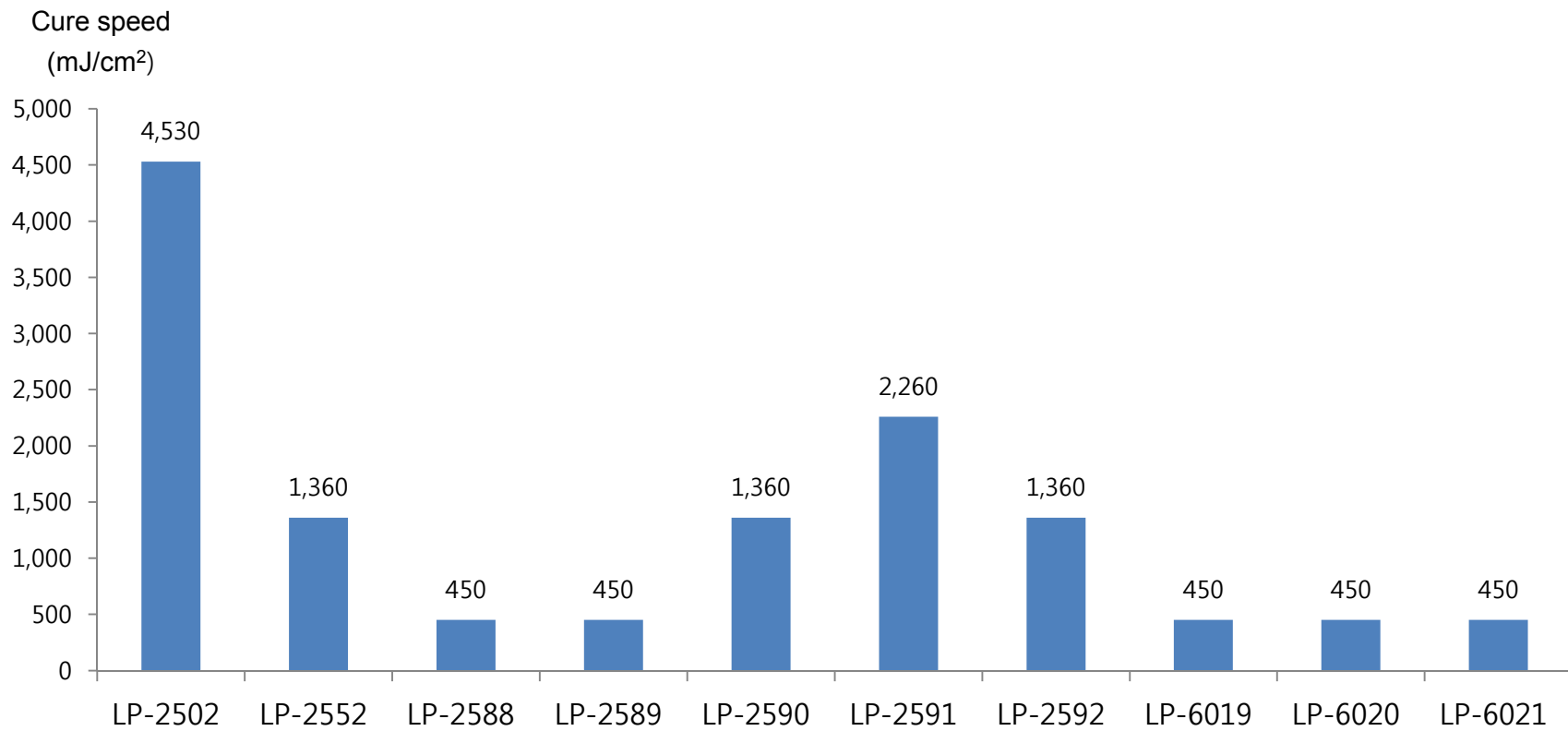
Gel Content

Gel content	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
MEK,%	96	76	88	89	91	86	86	85	85	84



Cure Speed

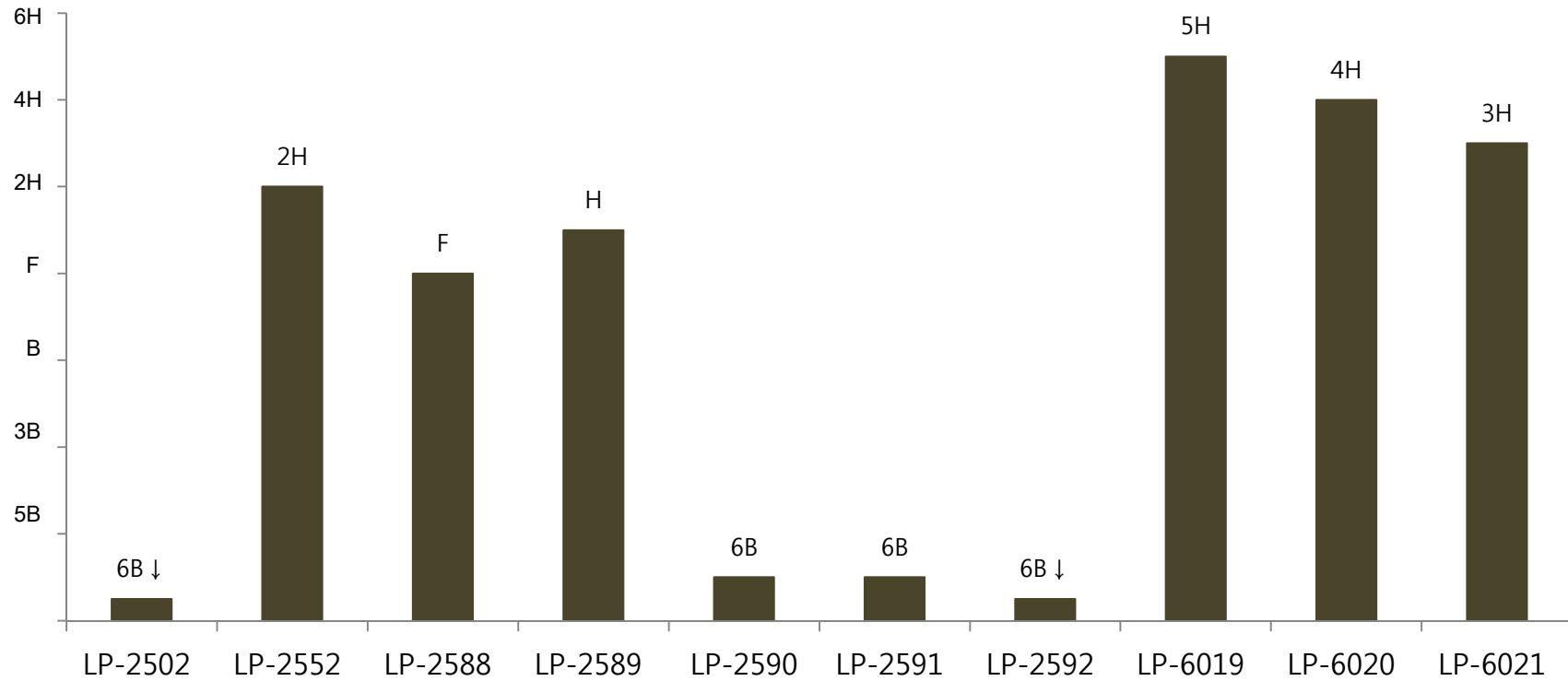
Cure speed	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
mJ/cm ²	4,530	1,360	450	450	1,360	2,260	1,360	450	450	450



Pencil Hardness

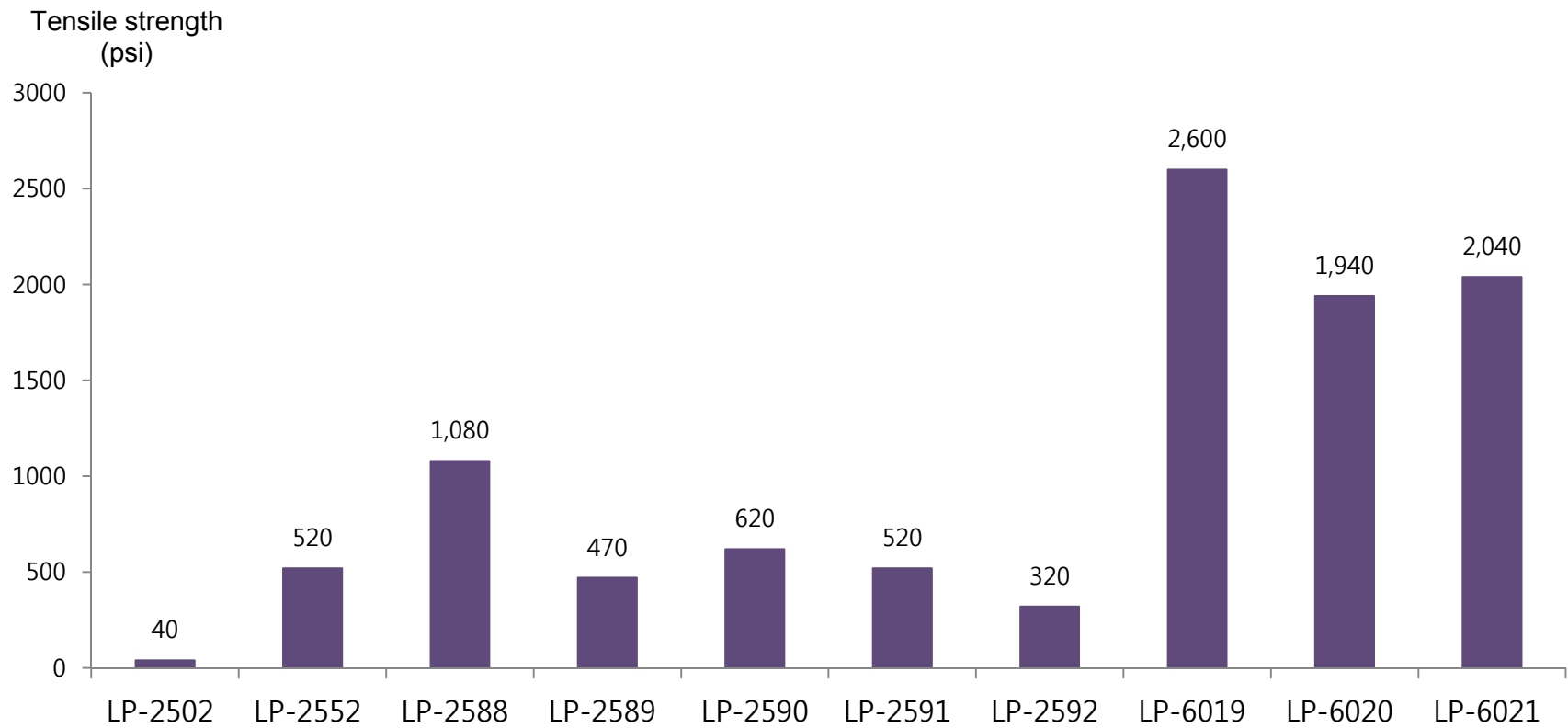
Pencil hardness	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
-	6B↓	2H	F	H	6B	6B	6B↓	5H	4H	3H

Pencil hardness



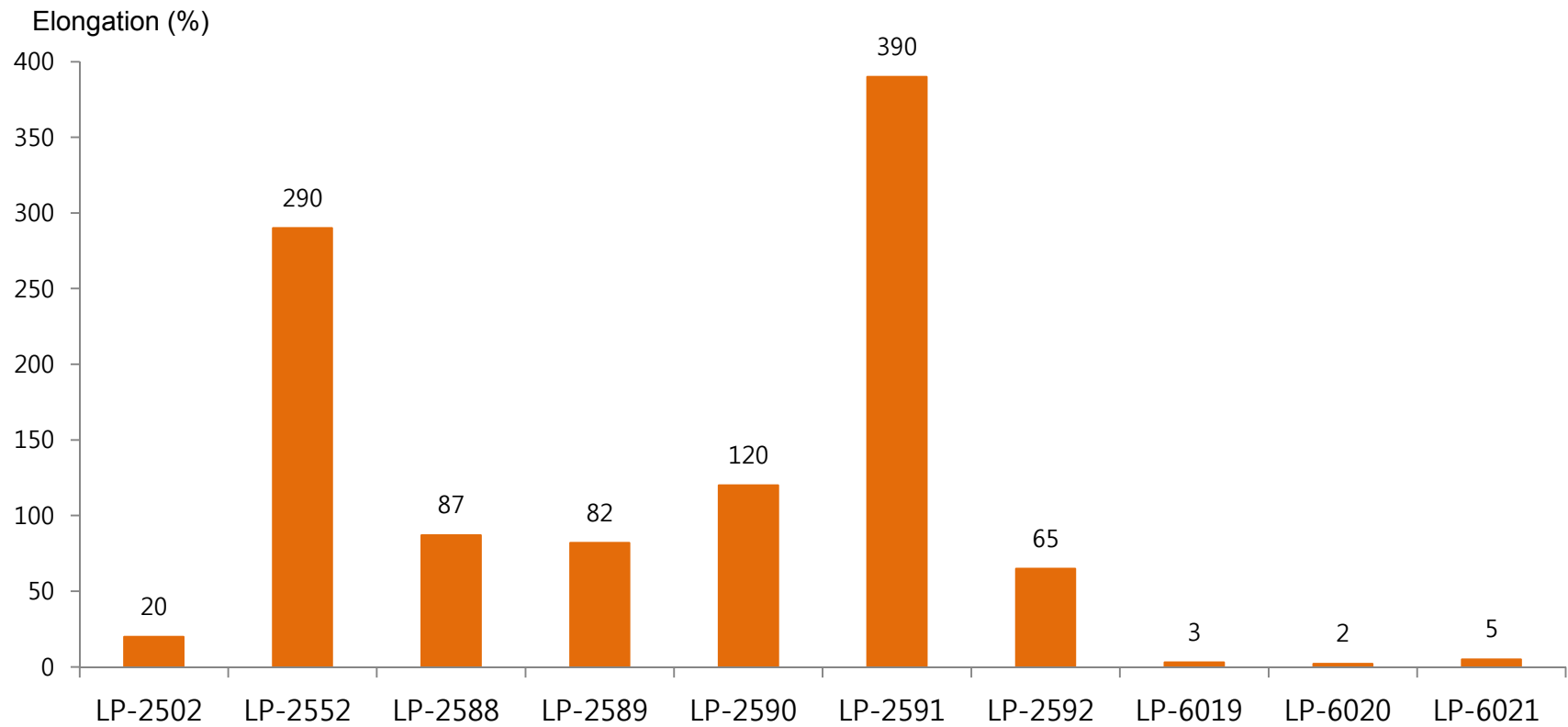
Tensile Strength

Tensile strength	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
psi	40	520	1,080	470	620	520	320	2,600	1,940	2,040



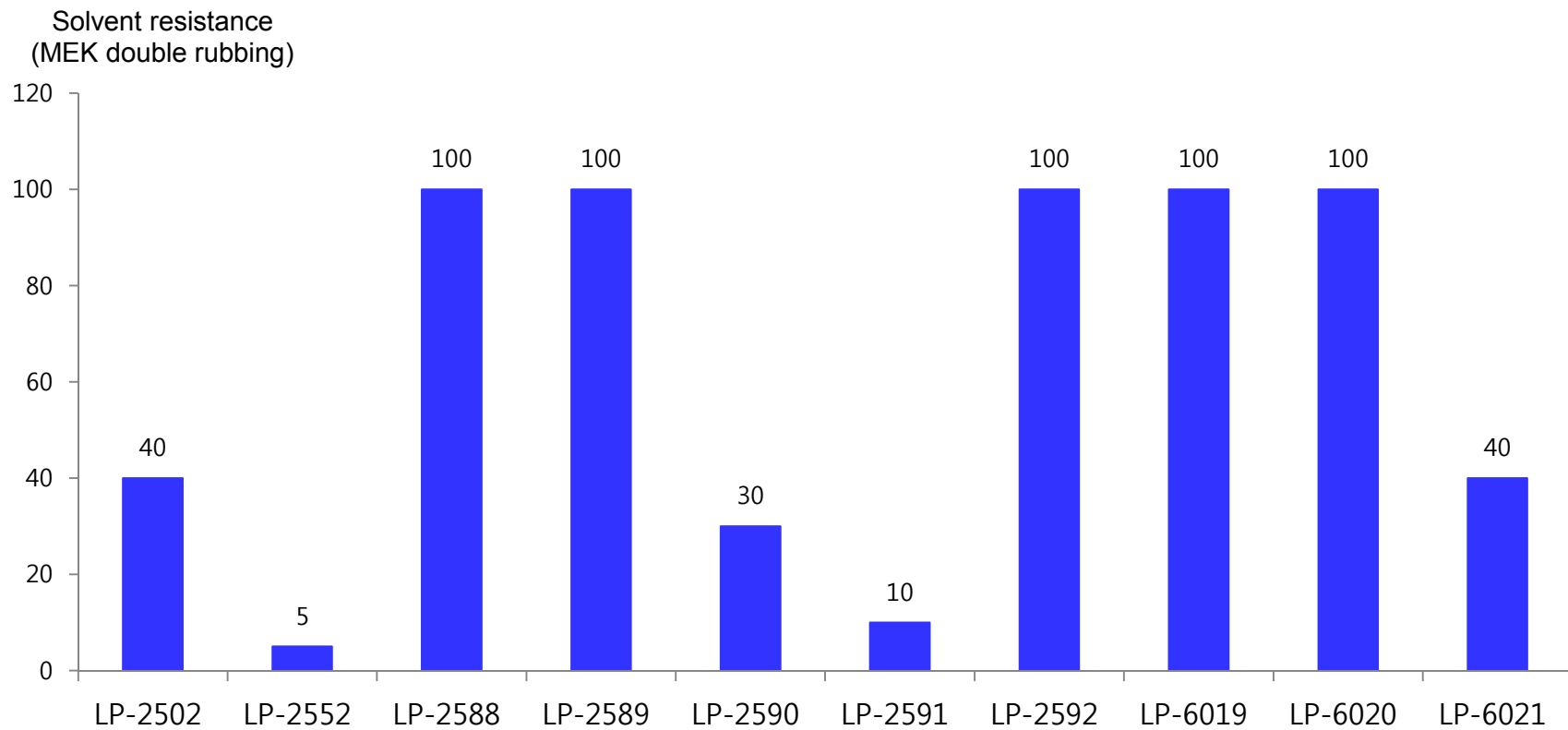
Elongation

Elongation	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
%	20	290	87	82	120	390	65	3	2	5



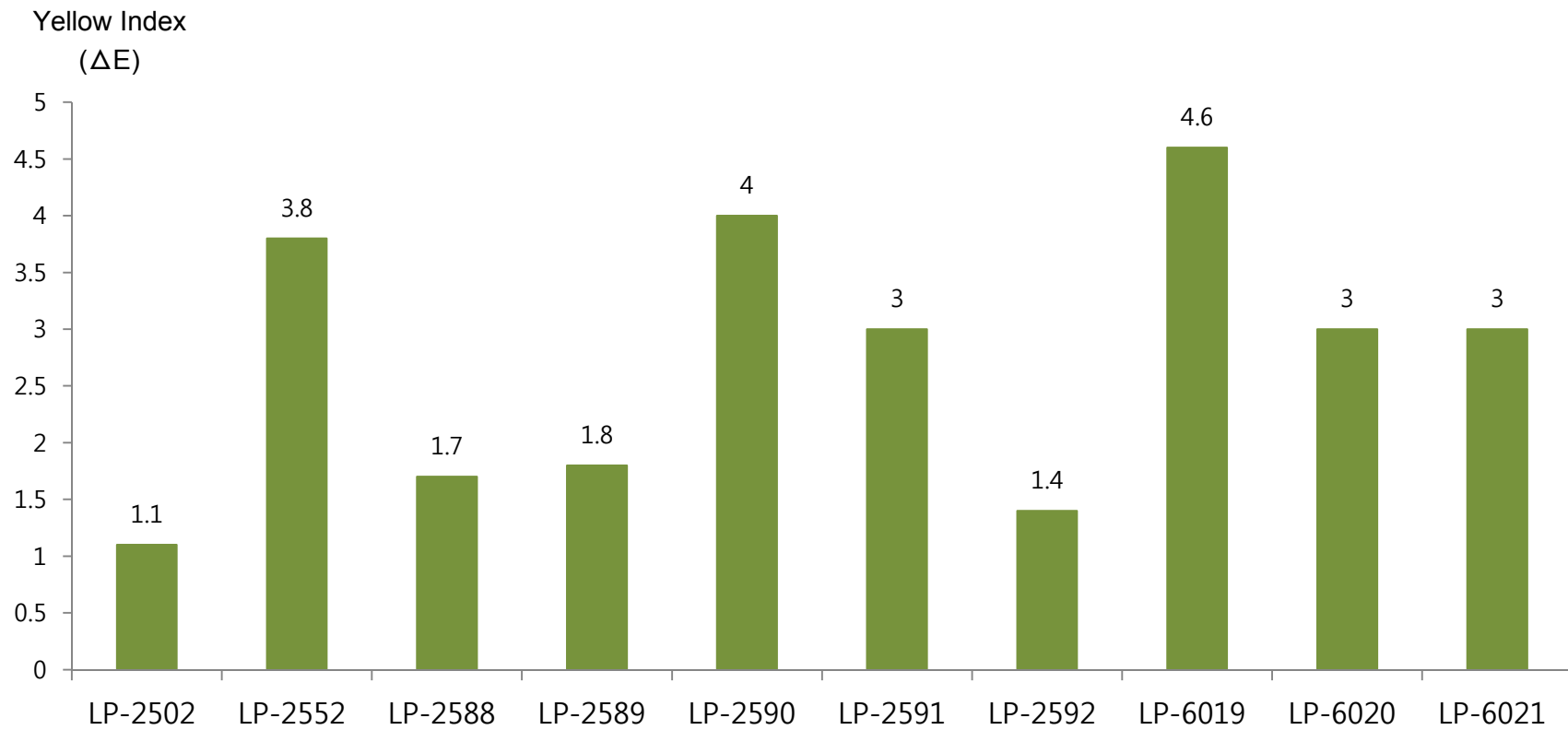
Solvent Resistance

Solvent resistance	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
MEK double rubbing	40	5	100	100	30	10	100	100	100	40



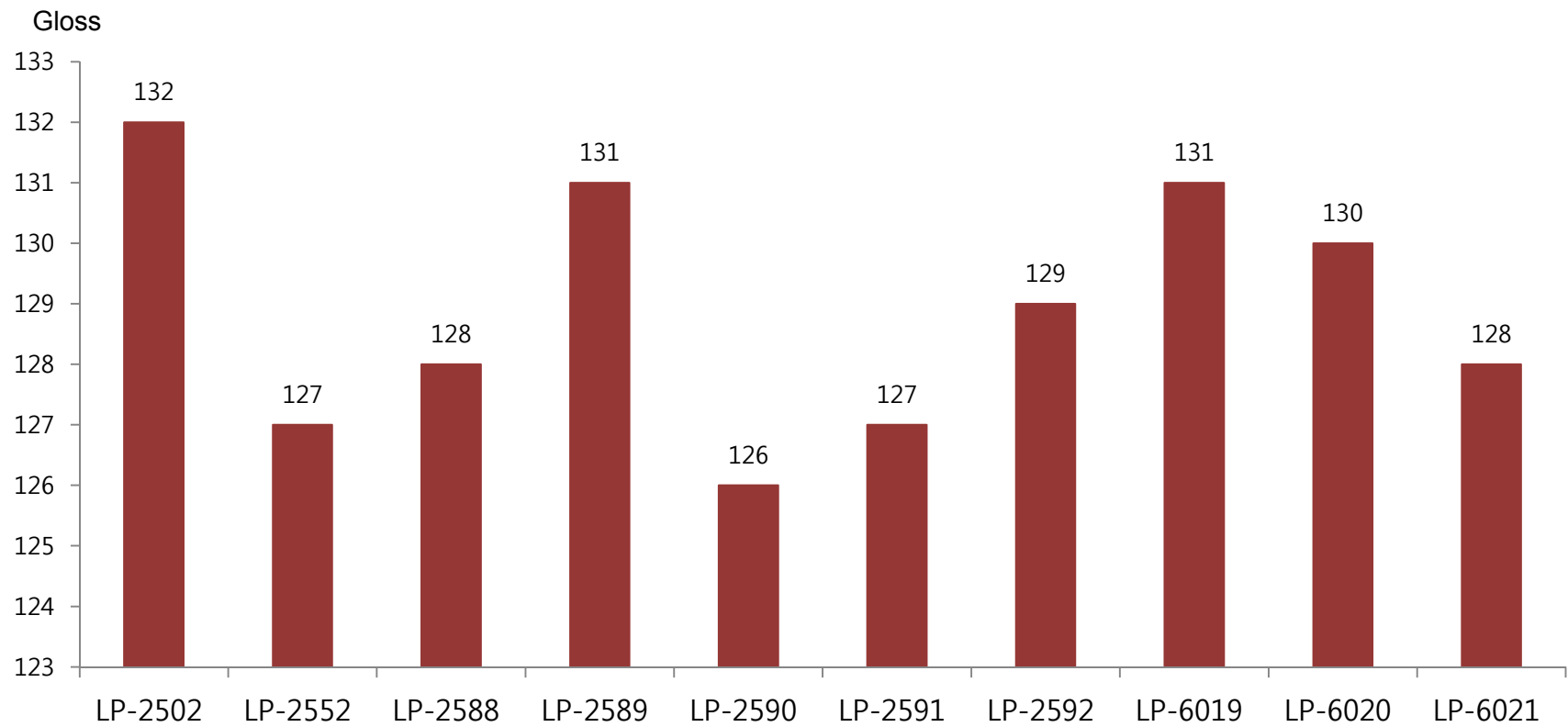
Yellow Index

Yellow Index	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
ΔE	1.1	3.8	1.7	1.8	4.0	3.0	1.4	4.6	3.0	3.0

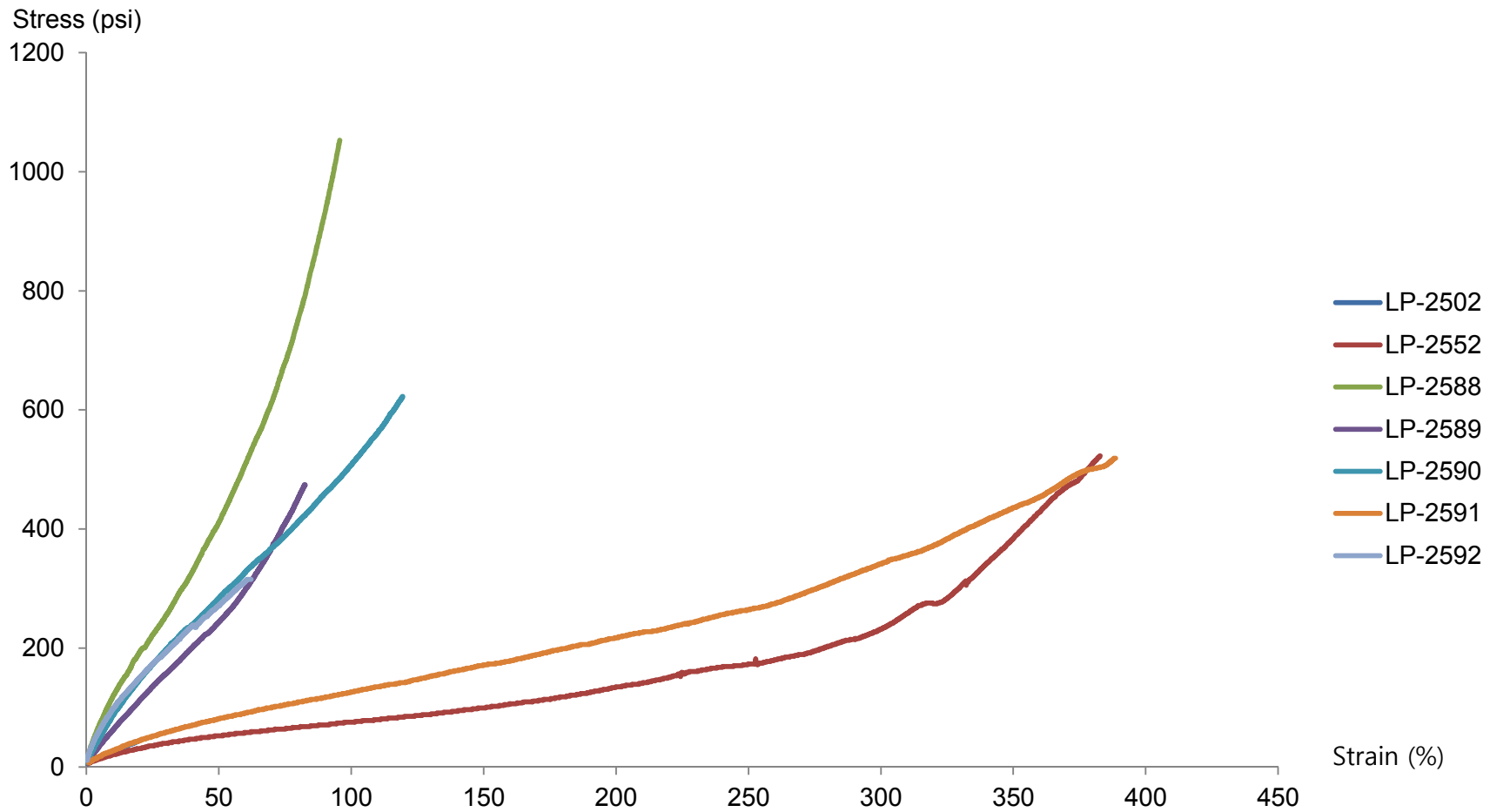


Gloss

Gloss	LP-2502	LP-2552	LP-2588	LP-2589	LP-2590	LP-2591	LP-2592	LP-6019	LP-6020	LP-6021
-	132	127	128	131	126	127	129	131	130	128



Stress Strain Curve



Stress Strain Curve

