SHOWA DENKO CHLOROPRENE™

Polychloroprene Rubber

- Grade Selection Guide -

Version 21EU

CHARACTERISTICS OF G / W / T TYPES

		Sulfur Modified	Non-Sulfur Modified	
		G type	W type	T type
	Raw polymer Stability	Worse than W/T types	Very Stable	Very Stable
Processability	Milling Effect	Effective (special peptizer can be used)	Small	Small
	Tackiness	Sticky	Less sticky	Less sticky
	Mill	Very small when milling	Larger than G type	Less shrinkage
	Extrudability	Very smooth surface	Good collapse resistance	Very smooth surface with better collapse resistance.
	Cure Rate	Curable without any accelerators	Variable depending on accelerators	Variable depending on accelerators
Physical Properties	Tensile Strength	Better than W/T types at higher rubber content	Better than G type when highly loaded	Better than G type when highly loaded
	Tear	Better than W/T types	-	-
	Resilience	Larger than W/T types	-	-
	Elongation	Better than W/T types	-	-
	Compression Set resistance	-	Better than G type at elevated temperature	Better than G type at elevated temperature
	Heat Resistance	-	Better than G type	Better than G type
	Flex Resistance	Better than W/T types	-	-
	Texture	Similar to NR	-	-
	Adhesion	Better adhesion to NR or SBR than W/T types	Good	Good
	Others	Little difference of weather, ozone and flame resistance among G,W and T types.		
Requirement / Application		Hot tear strength. Complicated-shape molded goods. Tacky compound. Lower compound viscosity. Belting, Sponge(foam).	Heat resistance. Compression set resistance. General purpose and extrusion.	Less shrinkage with collapse resistance. Extruded goods, calendered sheet.

DRY GRADES

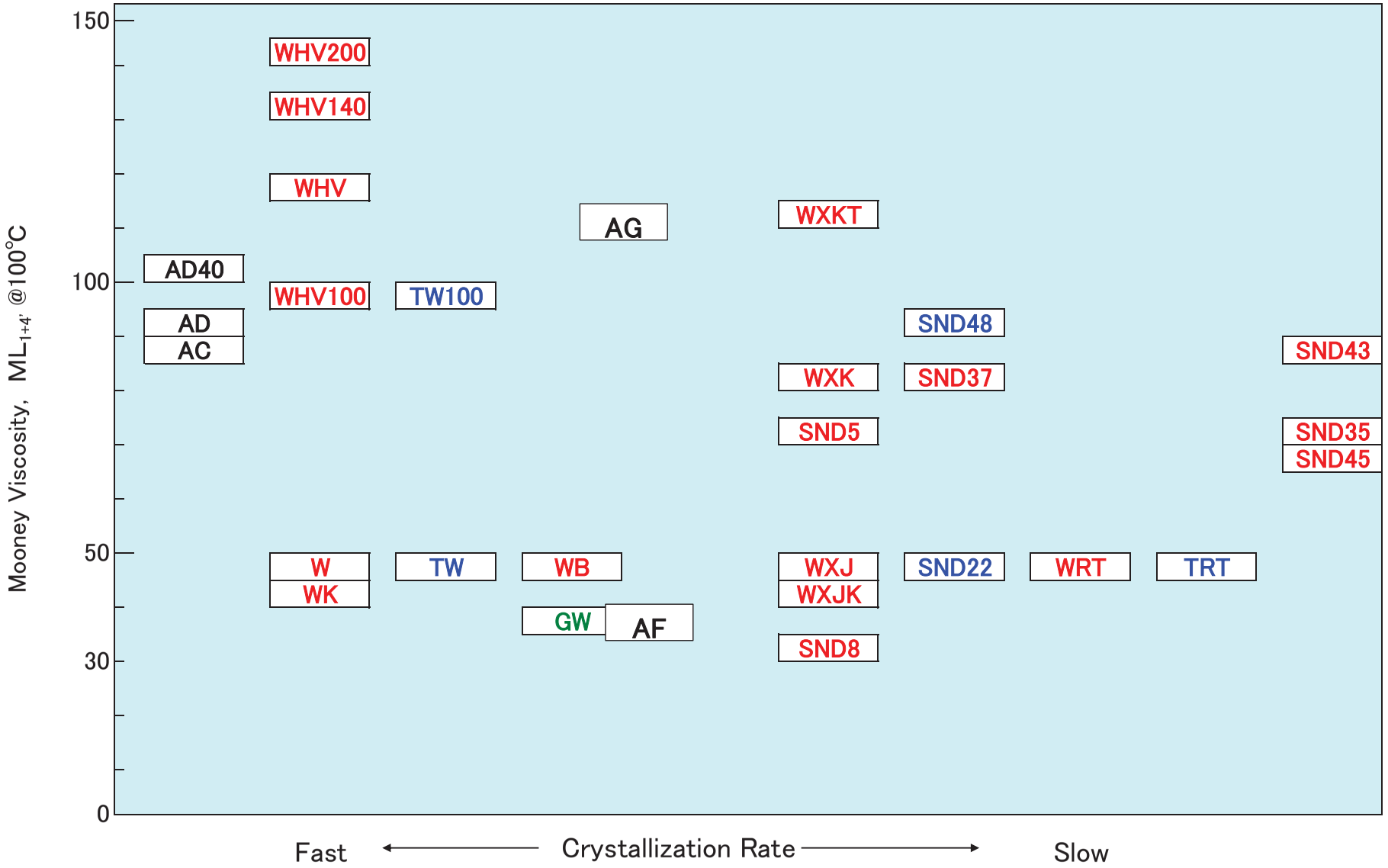
1-1 GENERAL PURPOSE

Grade	Mooney Viscosity [ML 1+4, 100℃]	Crystallization Rate	Other Characteristics
G Types (Sulfur-modified Group)			
GW	37－49	Slow	Sulfur modified G type with better heat and compression set resistance than GN and GRT
W Types (Basic Group)			
W	42－51	Medium	Standard grade for general purpose
WHV	109－130	Medium	Higher viscosity version of W for high loading application and general adhesives
WHV100	95－105	Medium	Lower viscosity version of WHV
W Types (Crystallization Resistant Group)			
WXJ	42－51	Very Slow	Good low tempetature properties for general use
SND5	67－76	Very Slow	Higher viscosity version of WXJ
SND8***	32－37	Very Slow	Lower viscosity version of WXJ
WRT	42－51	Extremely slow	Excellent low temperature properties
W Types (Extrusion & Calendering)			
WB	42－51	Medium	Best extrusion and calendering properties
WXK	73－89	Very Slow	Good low temperature properties with better extrudability
WXKT	106－117	Very Slow	Higher viscosity version of WX-K for high loading use
SND37	73－89	Very Slow	Better extrusion version of WX-K with improved mold release
W Types (Low Mold Fouling Group)			
WK	42－51	Medium	Better mold release version of W with good mill-and flow-ability
WXJK	42－51	Very Slow	Improved mold release version of WXJ with good mill-ability
SND35	63－73	Extremely slow	More excellent low temperature properties of WRT with improved mold release for injection molding goods
SND43	78－88	Extremely slow	Higher viscosity version of SND-35 with less shrinkage
SND45	60－73	Extremely slow	More excellent low temp. and improved brittleness temp. version of WRT with improved mold release for injection molding goods
T Types (Specific Group for Extrusion, Calendering)			
TW	42－51	Medium	Superior extrusion and calendering grade with good tensile properties
TW100	85－102	Medium	Higher viscosity version of TW for high loading use
SND22	42－51	Very slow	Good low temperature properties with better extrudability
SND48	85－100	Very slow	Higher viscosity version of SND-22 with better calender-ability and extrusion-ability having colapse resistance.
TRT	42－51	Extremely slow	Excellent low temperature properties with better processability

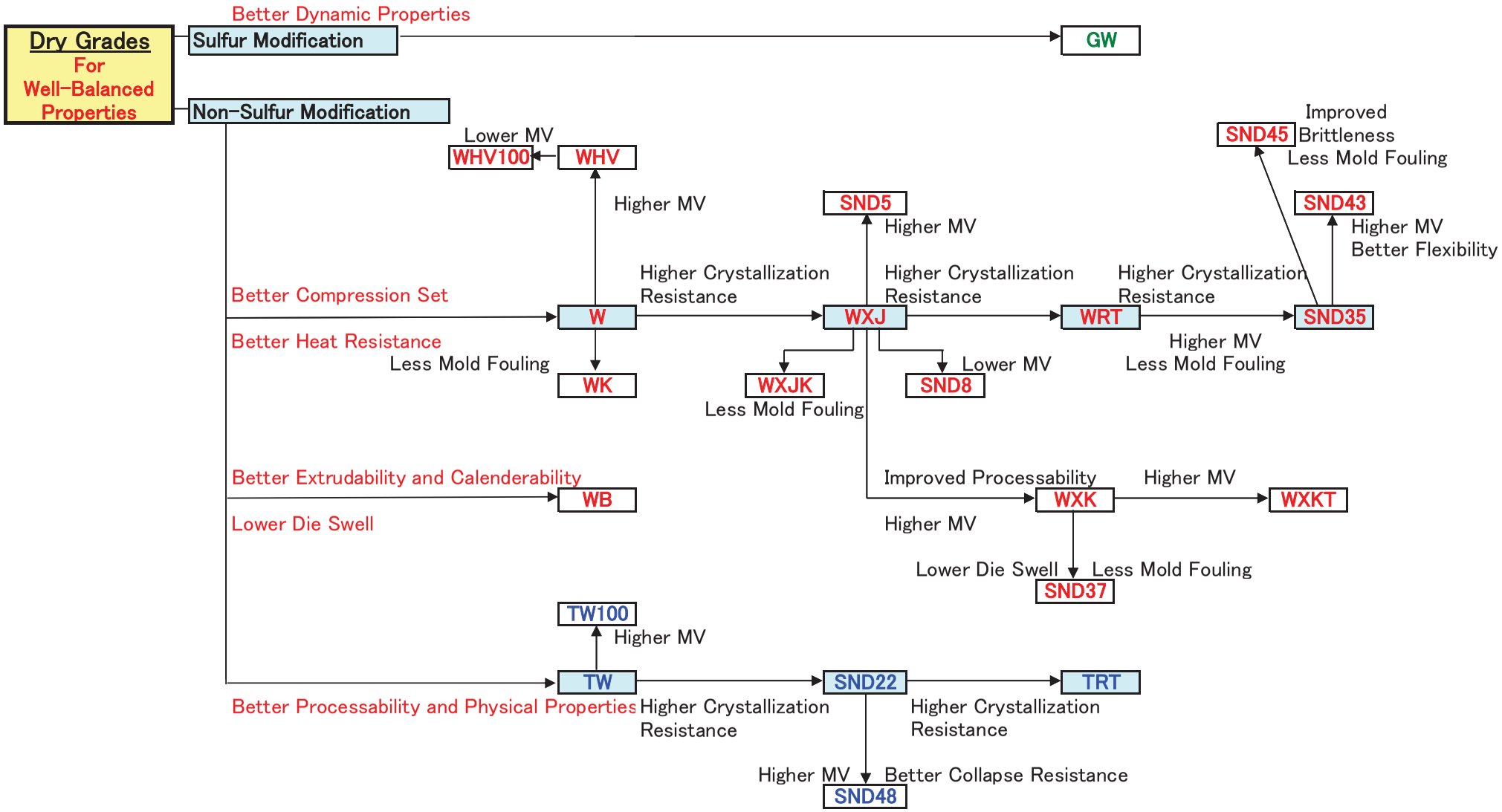
＊ 5% toluene solution viscosity at 25 degree C [mPa･s]

*** Produce to Order

PLOT OF DRY GRADES PER CRYSTALLIZATION RATE AND MOONEY VISCOSITY



SELECTION GUIDE OF DRY GRADES



ADHESIVE / LIQUID DISPERSION GRADES

1- 2 ADHESIVE APPLICATION

Grade	Mooney Viscosity [ML 1+4, 100℃]	Crystallization Rate	Form	Other Characteristics
W Types				
W	42－51	Medium	Chip	Most common grade
WHV	109－130	Medium	Slice	Higher viscosity version of W.
WHV100	95－105	Medium	Chip	Lower viscosity version of WHV.
WHV140	86－130 *	Medium	Slice	For high viscosity adhesive
WXJ	42－51	Very slow	Chip	Soft film and high tack at low temperature.
WRT	42－51	Extremely slow	Chip	Extremely soft film and high tack at low temperature.
A Types				
AC	31－43*	Very fast	Chip	Adhesives and paints use with good breakdown properties
AD	33－46*	Very fast	Slice	Adhesives and paints use with good solution viscosity stability
AD40	76－115*	Very fast	Slice	High solution viscosity version of AD
AF	45－115**	Slow	Chip	Excellent hot bond strength. Carboxylated.
AG	80-130	Medium-Slow	Slice	Excellent sprayability, thixotropy.

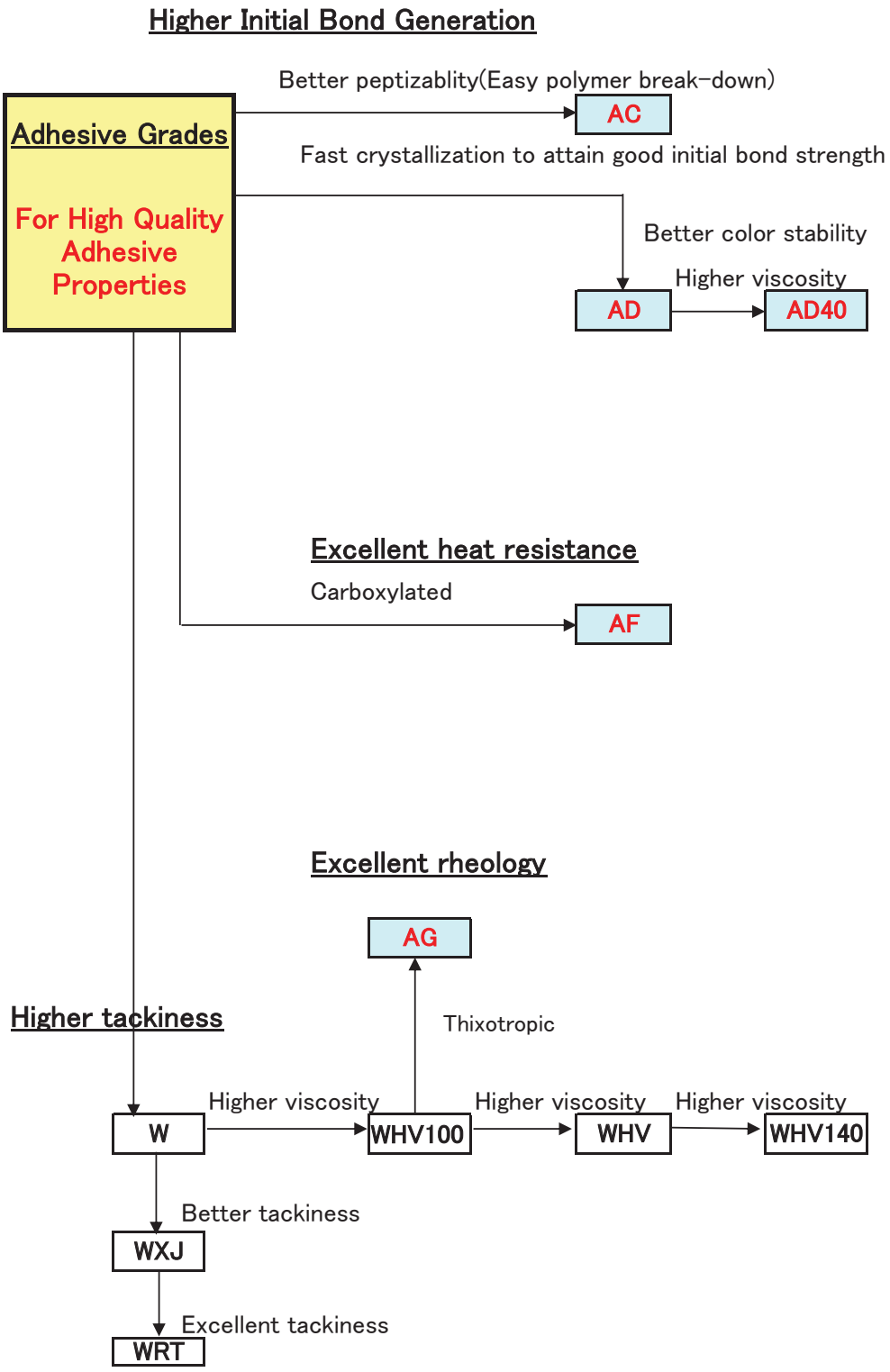
* Brookfield viscosity of 5% raw polymer solution in toluene at 25 ℃, [mPas]

** Brookfield viscosity of 10% raw polymer solution in toluene/hexane(60/40 vol/vol) at 25℃, [mPas]

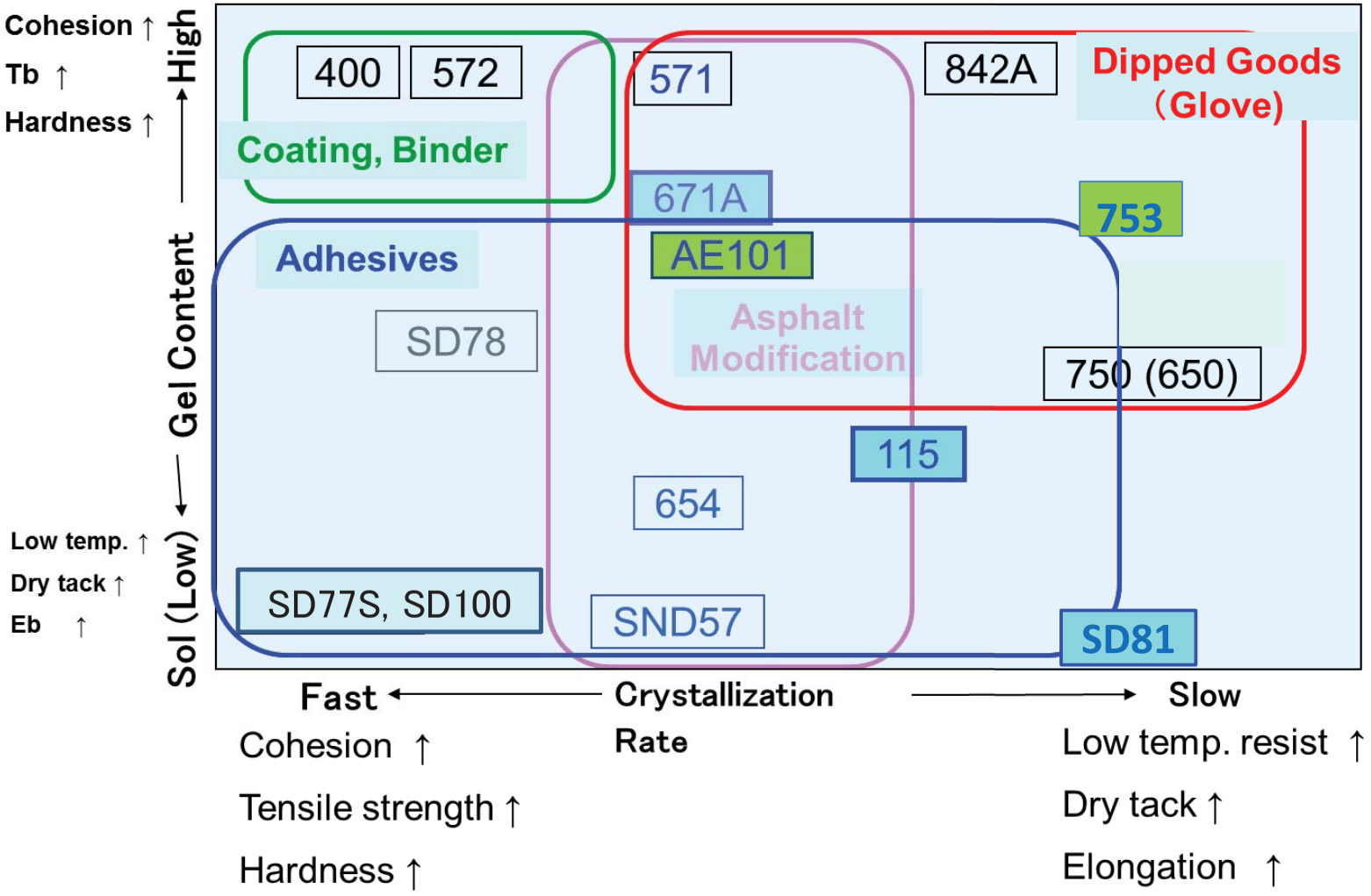
1- 3 LIQUID DISPERSIONS

Grade	Polarity	Solid content (%)	Polymer Structure		Crystallization Rate	Other Characteristics
			Gel Content	Homo/Copolyn		
400	Anionic	50	Medium	Copolymer	Extremely fast	Ozone,Weatherability
750	Anionic	50	Medium	Copolymer	Extremely slow	Flex, excellent elasticity
752	Anionic	50	Medium	Copolymer	Extremely slow	Flex resistance elasticity (soft) very low modulus
753	Anionic	50	Medium	Copolymer	Extremely slow	Flex, excellent elasticity with accelerator-free
650	Anionic	60	Medium	Copolymer	Extremely slow	High solid version of LD750
654	Anionic	59	Low	Copolymer	Low	Low modulus
842A	Anionic	50	High	Homopolymer	Very slow	High cure rate
671A	Anionic	59	Med-High	Homopolymer	Medium-Slow	High wet gel strength
AE101	Non ionic	59	Med-High	Homopolymer	Medium-Slow	Colloidal stability at low pH
572	Anionic	50	High	Homopolymer	Fast	Quick Grab strength
571	Anionic	50	High	Homopolymer	Slow	General Purpose, High cure rate
115	Non ionic	47.5	Low	Copolymer	Slow	Carboxylated,Hot bond strength
SD81	Non ionic	46.5	Sol(No gel)	Copolymer	Very slow	Carboxylated,Tackiness
SD77S	Anionic	55	Sol(No gel)	Homopolymer	Very fast	Quick break for foam bonding
SD100	Anionic	55	Sol(No gel)	Homopolymer	Very fast	Excellent Quick break for foam bonding
SND 57	Anionic	58	Sol(No gel)	Homopolymer	Medium	Tackiness, very low MW
SD78	Anionic	60	Med-High	Copolymer	Fast-Medium	Wood High Pressure Laminate

SELECTION GUIDE OF ADHESIVE GRADES



Application map by Gel content & Crystallization



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