

HOW TO USE THIS GUIDE

First row means first choices – the system will bond in most cases) Only full tests will optimise the bonding system.
 Second row means second choices – the system should bond) There are cases where a third choice has been the
 Third row means the bonding system *may* bond) correct choice for a particular end use.

Our recommendations may change depending on the end-application and environmental requirements.

ELASTOMER	CILBOND 1 COAT SYSTEM	CILBOND 2 COAT SYSTEM	COMMENTS Please read before selection	
Acrylic (ACM)	10E 62W	12E / 80E	General purpose 10E or 10E / 55E For peroxide cures, try 12E / 80E or 65W For 'S' cured try 24	
	24 89E	10E / 55E		
	65W			
Butyl (IIR) Chlorobutyl (CIIR)	24	12E / 80E	12E/80E bonds a wider range of compounds and has a higher temperature resistance than 10E/55E	
	89E	10E / 55E		
Chloroprene (CR)	24	12E / 80E	24 or 12E / 80E recommended for superior environmental resistance	
	89E	10E / 55E		
Chlorosulphonated Polyethylene (CSM)	24	12E / 80E	24 is normally first choice	
	89E	10E / 55E		
Chlorinated Polyethylene (CPE)	24	12E / 80E	24 is normally first choice	
	89E	10E / 55E		
Epichlorhydrin (ECO)	10E 24 62W	12E / 80E	24 and 62W give highest resistance to hot fuels and to methanol/ toluene blends	
	89E	10E / 55E		
EPDM - Sulphur cured and EPR	89E	12E / 80E	12E / 80E is normally first choice 12E / 80E for glycol resistance, brake fluid resistance and heat resistance	
		10E / 55E		
EPDM - Peroxide cured and EPR	89E	12E / 80E	12E / 80E is first choice for bonding. 12E / 80E for glycol resistance, brake fluid resistance and heat resistance	
		10E / 55E		
Fluoroelastomer (FKM) Bisphenol or Amine cured	33 A/B		33 A/B is first choice 33 A/B benefits from post cures	
	65W	12E (33 A/B)		
Fluoroelastomer (FKM) (peroxide cured)	65W		65W benefits from post cures	
	33 A/B			
Natural (NR) Polybutadiene (BR)	High S	24	12E / 80E	12E / 80E bonds all cure types. 24 and 12E / 80E first choices for higher temperature glycol resistance, oil and fluid resistance. For general purpose use 10E / 55E
		89E	10E / 55E	
Styrene Butadiene (SBR)	Low S		12E / 80E	
		89E	10E / 55E	
Polyisoprene (IR)	Peroxide Cures	24		
		89E	10E / 55E	

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Polynorborene (PNR)		24 89E	12E / 24 12E / 80E 10E / 55E	24 is first choice. A pre-bake may be necessary	
Nitrile (NBR)	S Cures	10E 62W 89E	12E / 80E	10E best suited for oil seals 12E / 80E most versatile for all types of NBR 10E / 55E well suited for roller applications	
			10E / 55E		
	Peroxide Cures	89E 62W 10E	12E / 80E		
			10E / 55E		
Carboxylated NBR (XNBR)		10E 62W 24 89E	12E / 80E 10E / 55E		
Hydrogenated NBR (HNBR)	S Cures	10E 89E 62W 24	12E / 80E 10E / 55E	For 1 coat system a pre-bake may be necessary. 12E / 80E is the most versatile having best environmental resistance. 24 may post vulcanisation bond all cure systems 65W suits oil seal applications 12E / 80E suits all types of cure systems	
		Peroxide Cures	89E 65W		12E / 80E 10E / 55E
	Acrylic Modified Peroxide Cures		12E/80E		
		89E 65W			
PVC/NBR Blends		10E 62W 89E	10E / 55E 12E / 80E	10E is 1 st choice Pre-bakes may be necessary	
Polypropylene Oxide (Parel [®])		24 89E	12E / 80E 10E / 55E	1 coat gives best adhesion otherwise 12E / 80E bonds best for any 2 coat system	
Castable Polyurethane Hot cure, 90°-110°C <i>(see footnote)</i>		49SF 45SF 48 49SF + B	49SF+B / 49SF	45SF or 49SF is the standard for Vulkollan [®] , Adiprene [®] , Vibrathane [®] , etc. 49SF + Cilcure B and 48 give the ultimate in water and heat resistance	
Castable Polyurethane Quasi systems, 50-80°C <i>(see footnote)</i>		49SF 48 49SF+B 41 + B	49SF+B / 49SF	For bonding Quasi systems at 50-80°C with 49SF a pre-bake is required. For improved environmental resistance use 49SF + Cilcure B, or 41+ Cilcure B	
Castable Polyurethane Cold Cure, ca. 20°C, including sprayed and rotational casting PU's <i>(see footnote)</i>		41+B 41 49SF+B 48		41 suited for standard polyol / isocyanate cold cures. 41+ B or 49SF+B best for amine based fast cures and for exceptional environmental resistance.	
TPU		49SF 45SF 48		49SF the standard for TPU Pre-bakes are recommended	
Millable PU		89E 49SF+B	12E / 80E	49SF + B for NCO cures, 89E or 12E / 80E for peroxide and 'S' cures.	

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Silicone (VMQ)		65W	12E / 65W	For best heat resistance use 12E / 65W For difficult to bond compounds use 12E / 65W 65W 1 st choice for Pt cured systems
		35		
TPE		89E	12E / 89E	89E first choice
			12E / 80E	
			10E / 55E	
Engage® Ethylene octene copolymer (POE)		89E	12E / 80E	12E / 80E first choice
			10E / 55E	
Ethylene acrylate eg., Vamac®	S Cures Vamac G	24 12E 62W		12E or 24 are best for bonding Vamac G series giving heat resistance to ≥200°C 12E / 80E bonds both series equally well
			12E / 80E	
		10E 89E	10E / 55E	
	Peroxide Cures Vamac D	89E 65W	12E / 80E	
		62W	10E / 55E	
	24			
Advanta® (Vamac® /Viton® alloys)			12E / 80E	12E / 80E bonds all alloys, even Viton® rich blends.
			10E / 55E	
Ethylene Vinyl Acetate (EVM)		24	12E / 80E	2 coat system bonds a very wide range of compounds and is first choice
			10E / 55E	
Miscellaneous bonding Cast or cured PU to cured NR		89E	45SF / 89E	70°C minimum to activate 89E onto NR 95°C minimum to activate 80E onto NR.
			49SF / 80E	
EPDM/CR (moulding EPDM to cured CR)		89E		
		80E		
EPDM/CPE		89E		
		80E		
Polypropylene bonding		89E		Prime freshly flame or ionisation treated PP with 89E or 80E
		80E		
Hytrel®/Metals		49SF	49SF / 45SF	Pre-bake 49SF on metal

NOTES:

- The following are trademark: VULKOLLAN® - Bayer; ADIPRENE® and VIBRATHANE® - Uniroyal, PAREL® - Goodrich; Advanta®, VAMAC®, ENGAGE® and HYTREL® - DuPont.
- Where severe environments are not to be encountered or for general purpose applications it is possible to replace Cilbond 12E / 80E with 10E / 55E.
- For Cilbond 41 + B or Cilbond 49SF + B, B = Cilcure B and using a mix ratio of:
Cilbond 41 + B = 100:5, wt:wt
Cilbond 49SF + B = 100:10, wt:wt