

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 36	12E / 80ET	For 'S' cured use 24 For peroxide cures, use 12E / 80ET, 65W or 36 For general purpose bonding use 10E	
	24 89ET			
	65W	12E / 65W		
Butyl (IIR) Chlorobutyl (CIIR)		12E / 80ET	12E/80ET bonds a wider range of compounds.	
	24 89ET			
Chloroprene (CR)	24	12E / 80ET	24 or 12E / 80ET recommended for superior environmental resistance	
	89ET			
Chlorosulphonated Polyethylene (CSM)	24	12E / 80ET	24 is normally first choice	
	89ET			
Chlorinated Polyethylene (CPE)	24	12E / 80ET	24 is normally first choice	
	89ET			
Epichlorhydrin (ECO)	24 62W	12E / 80ET	24 and 62W give highest resistance to hot fuels and to methanol / toluene blends	
	89ET 36			
EPDM and EPR - Sulphur cured		12E / 80ET	12E / 80ET is first choice. Especially for hot glycol, brake fluid and heat resistance.	
	89ET			
EPDM and EPR - Peroxide cured	89ET	12E / 80ET	12E / 80ET is first choice. Especially for hot glycol, brake fluid and heat resistance.	
Fluoroelastomer (FKM) - Bisphenol or Amine cured	33 A/B		33 A/B is first choice 36 may be best choice for complex or large parts	
	36	12E (33 A/B)		
	65W			
Fluoroelastomer (FKM) - Peroxide cured	36 65W		65W bonds a wide range of compounds 36 has ultimate heat resistance to 250°C With 33 A/B, a 3 : 2 mix ratio may improve bonding	
		12E / 65W		
	33 A/B			
Natural (NR)	High S	24	12E / 80ET	12E / 80ET bonds all cure types. 24 and 12E / 80ET first choices for higher temperature glycol, oil and fluid resistance. 24 works best with 'S' cures, especially at ≥1 pph.
		89ET		
Polybutadiene (BR)	Low S	89ET	12E / 80ET	
		24		
Styrene Butadiene (SBR)	Peroxide Cures	89ET	12E / 80ET	
Polyisoprene (IR)				

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Polynorbornene (PNR)		24	12E / 24	24 is first choice. A pre-bake may be necessary, especially for very soft compounds.
		89ET	12E / 80ET	
Nitrile (NBR)	S Cures	10E 62W	12E / 80ET	10E best suited for oil seals 12E / 80ET most versatile for all types of NBR 10E / 80ET well suited for roller applications 62W has maximum oil / fuel resistance
		89ET	10E / 80ET	
	Peroxide Cures		12E / 80ET	
		62W 89ET 10E	10E / 80ET	
Carboxylated NBR (XNBR)		10E	12E / 80ET	12E / 80ET is usually 1 st choice, but 10E is 1 st choice for oil / shaft seals.
		24 62W		
		89ET		
Hydrogenated NBR (HNBR)	S Cures		12E / 80ET	For 1 coat system a pre-bake may be necessary. 12E / 80ET is the most versatile, having best environmental resistance properties. 24 may post-vulcanisation bond all cure systems. 36 and 65W suit oil seal applications 12E / 80ET suits all types of cure systems
		10E 89ET 24 62W		
	Peroxide Cures	89ET	12E / 80ET	
		36 65W	12E / 65W	
Acrylic Reinforced / Modified HNBR		36	12E / 80ET	12E / 80ET is 1 st choice.
		89ET 65W		
PVC / NBR Blends		10E	10E / 80ET	10E is 1 st choice Pre-bakes may be necessary
		62W 89ET		
Polypropylene Oxide (Parel®)		24	12E / 80ET	
		89ET		
Castable Polyurethane (PU) Hot cure : 90-110°C <i>(see footnote)</i>		49SF 45SF 48	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
		49SF+B		
Castable Polyurethane (PU) Quasi systems : 50-80°C <i>(see footnote)</i>		49SF 48	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
		49SF+B		
		41+B		
Castable Polyurethane (PU) Cold Cure : ≥ 20°C, including sprayed and rotational cast PU <i>(see footnote)</i>		41+B 41		Use 41 for standard polyol / isocyanate cold cures. 41+ B or 49SF+B best for amine-based fast cures and for exceptional environmental resistance.
		49SF+B 48		
TPU		49SF 48		49SF and 48 are the standards for TPU Pre-bakes are recommended for best results Avoid moulding onto cold metals.
		45SF		
Millable PU		89ET	12E / 80ET	48 and 49SF for NCO cures. 12E / 80ET for peroxide and 'S' cures 89ET will bond all cure types
		48 49SF		
Peroxide cured Silicone (VMQ) and Fluorosilicone (FVMQ)		36 65W		65W bonds a wide range of compounds. Use 36 for high temperature/dynamic situations. 36 or 33 A/B for FVMQ.
		33A/B		
Pt / Pd cured Silicone		36 65W		65W bonds a wide range of compounds. Use 36 for high temperature / dynamic situations.

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Siliconised EPDM			12E / 80ET	
		89ET		
TPE		89ET	12E / 89ET	89ET first choice
			12E / 80ET	
Engage® - Ethylene octene copolymer (OEM)			12E / 80ET	
		89ET		
AEM, Ethylene Acrylate Copolymer e.g., Vamac®	S Cures Vamac® G	20 36		Use 20 for bonding Vamac G series, giving heat resistance to ≥200°C. 24 for general purpose. 36 bonds both series. 36 gives excellent long-term heat resistance. 12E / 80ET bonds both series equally well
		24	12E / 80ET	
		10E 89ET		
	Peroxide Cures Vamac® D	36 89ET 65W	12E / 80ET	
		62W		
24				
(Vamac® / Viton® alloys)			12E / 80ET	12E / 80ET bonds all alloys, even Viton® rich blends.
Ethylene Vinyl Acetate (EVM)		24	12E / 80ET	12E / 80ET bonds a wide range of compounds and is first choice
		36		
Miscellaneous bonding - Cast or cured PU to cured NR, CR, CSM or NBR compounds		89ET	89ET / 49SF+B	20°C minimum to activate 41+B onto cured rubber 70°C minimum to activate 89ET onto cured rubber 95°C minimum to activate 80ET onto cured rubber
		41+B	89ET / 48	
EPDM / CR (moulding EPDM to cured CR)		89ET		
		80ET		
EPDM / CPE		89ET		
		80ET		
Polypropylene bonding		89ET	89ET / 80ET	Prime the freshly flame or ionisation treated PP with 89ET. Using a cover of 80ET allows coated parts to be stored / transported.
Hytrel®/ Metals		49SF 48	49SF/ 45SF	Pre-bake 49SF on metal. If feasible, have metals at >120°C when moulding the Hytrel®.

NOTES:

- The following are trademarks:
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- For Cilbond 41 + B or Cilbond 49SF + B, 'B' = Cilcure B.
 Use a mixing ratio of Cilbond 41 + Cilcure B = 100:5 (wt : wt) Cilbond 49SF + Cilcure B = 100:10 (wt : wt)
- Cilbond 89ET has superb bonding capability, but contains isocyanate. This restricts its processing versatility, especially for automated application processes and storage of coated parts.
- For more information on any of the recommendations, see the Technical Data Sheet.
- For further information on Substrate Preparation see Information Sheets A1 and C19
- For further information on Methods of Application see Information Sheet A7.