

Advanced Material Solutions for Medical Syringes



Biesterfeld – Your Partner for Medical Polymers & Specialties

Medical syringes are critical medical devices requiring precision, safety, and regulatory compliance. At Biesterfeld, we offer a tailored portfolio of materials for both standard and pre-filled syringes, including high-performance polymers from INEOS (Eltex® MED), Vivion® CBC, Santoprene™ MED, Exxon™ halobutyl, Liveo™ medical silicones and DYMAX® medical adhesives.

Recommended Materials & Functional Roles

Component	Material	Function & Benefits
Barrel	Eltex® MED (Polypropylen)	High transparency and dimensional stability compared to other PP, chemical resistance, gamma sterilizable
	Vivion® (CBC)	Prefilled Syringes in Funktion & Benefits
Plungers, Stoppers	Eltex® MED (Polypropylen)	Rigid, durable, good processability, biocompatibility
	Exxon™ halobutyl	Low permeability, Low extractables and leachables
	Santoprene™ MED (TPV)	Soft sealing, high elasticity, low compression set, medical regulatory compliance
Needle Hub	Eltex® Med (Polypropylen) or LG Chem PC (Polycarbonat)	High mechanical strength, compatibility with Luer-lock, tight dimensional control
Lubrication	Liveo™ Silicone Coating Fluids & Dispersions	Excellent lubricating characteristics, compliant with USP NF and Ph.Eur.
Bonding	DYMAX® UV/LED-curing adhesives	Ideal for high-speed, high-volume automated syringe assembly, ISO 10993 compliant
Packaging (if required)	Skygreen® (PETG)	Transparent, impact-resistant trays (FDA/EU food grade – suitable for medical use)



Interested to learn more about our medical solutions service portfolio? Feel free to contact us at medical@biesterfeld.com!

Why These Materials?

Eltex® MED grades

offer long-term supply security, regulatory support (ISO 10993, USP Class VI), and excellent processability for high-volume injection molding.

Santoprene™ MED

ensures flexible sealing while withstanding sterilization and storage without material degradation.

Vivion® CBC

is ideal for pre-filled syringes, offering barrier protection, high purity, and compatibility with a wide range of APIs (including biologics).

Liveo™ Silicone Coating Fluids & Dispersions

provide excellent lubricating characteristics, high water repellency/hydrophobicity and outstanding drug-compatibility

DYMAX® UV/LED-curing adhesives

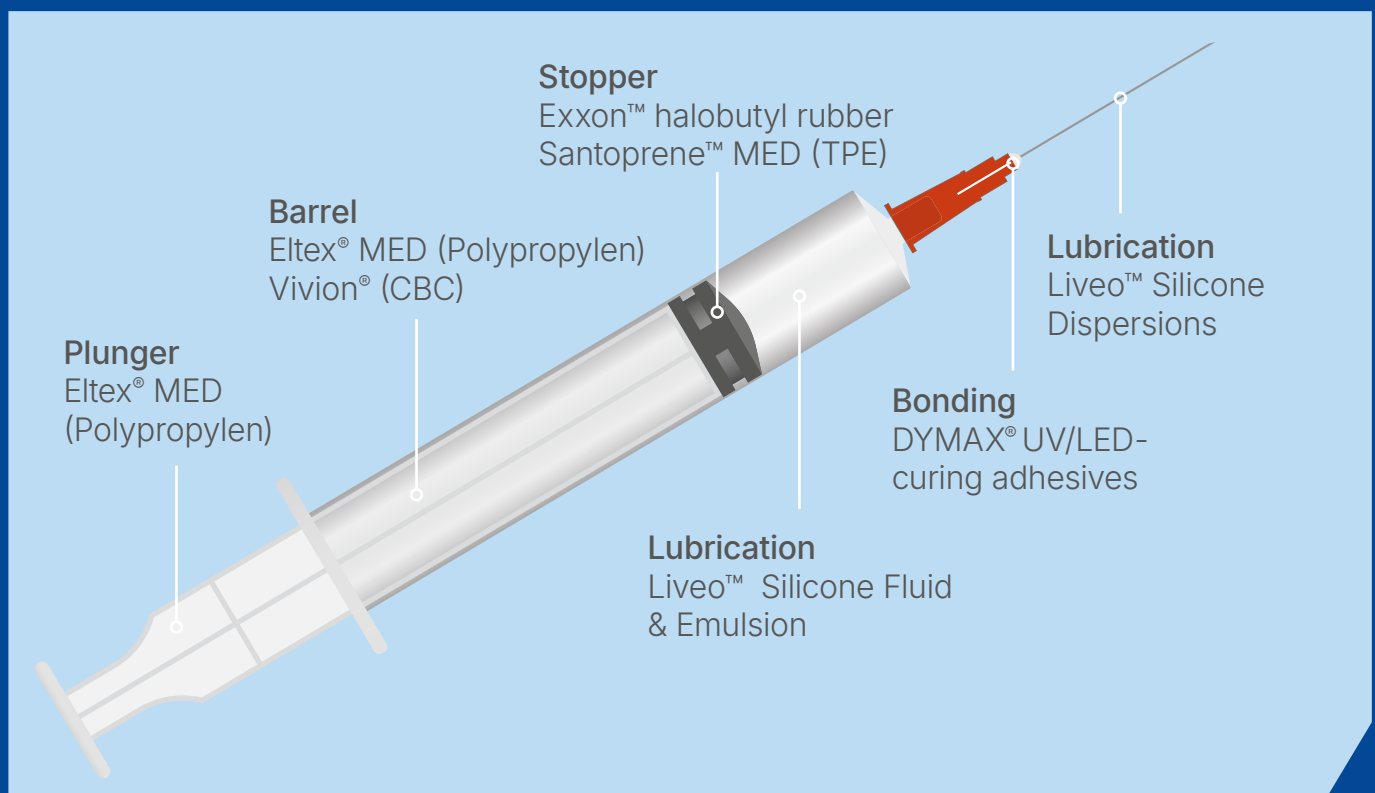
medical-grade adhesives for needle and syringe assembly. Formulated to bond difficult substrates as PP, CBC/COP or PC and glass

Exxon™ halobutyl rubber

offers low permeability as well as low extractables and leachables, making it ideal for applications like pharmaceutical plungers and stoppers.

Skygreen®,

while not specifically ISO 10993 certified, can be used in non-drug-contacting rigid packaging due to their clarity and resistance.



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