Implantable Polymer Applications



Foster®
PERFORMANCE SOLUTIONS BY GEON

Foster

is a polymer solutions provider for the critical application medical market, including Class III applications for implantable devices. Foster compounds in functionality to polymers for implantable medical devices in a class 7 clean room through twin screw compounding techniques. Our material capability includes durable and non-durable implantable polymer.



In addition to compounding functionality into implantable polymers, Foster also provides implantable polymers and additives from our Foster SCS (Distribution) business:

- Thermoplastic polyurethane (TPU)
- Polypropylene
- Silicones
- Beta TCP (Osteoconductivity)
- Bismuth subcarbonate
- PEKK

Foster is committed to be a full-service provider, with polymer agnostic formulation capabilities and deep industry expertise.

FOSTER MEDICAL IMPLANTABLE MATERIAL CAPABILITIES

Development Services:

Implants are the most highly regulated products in the medical device market. Effective product development that can be validated and scaled to production is essential. We offer a complete range of services throughout the product development cycle including:

- Formulation & Material Selection
- Feasibility – Small Batch Production
- Process Development
- Scale-Up
- Validation – Process & Test Methods
- Production – Implement Manufacturing Protocol

Clean room capability:

- Class 7 (10,000) clean room
- 27mm twin screw extruder
- 18mm twin screw extruder (R & D)
- Loss-in-weight-feeders
- Pelletization (customizable)
- Air & water cooling
- Non-clean room processing area for R & D runs

Medical Plastics Innovation Center & Developmental Services:

- R & D lots to production scale up
- Formulation development
- Feasibility – small batch production
- Process development
- GMP trials
- Validation
- Finished property testing

WIDE RANGE OF IMPLANTABLE MATERIALS

Durable implantable materials:

- PEEK
- PAEK
- Polysulfones
- Polypropylene
- Thermoplastic polyurethane
- Silicones
- Nylons
- Others

Non-durable bioabsorbable implantable materials:

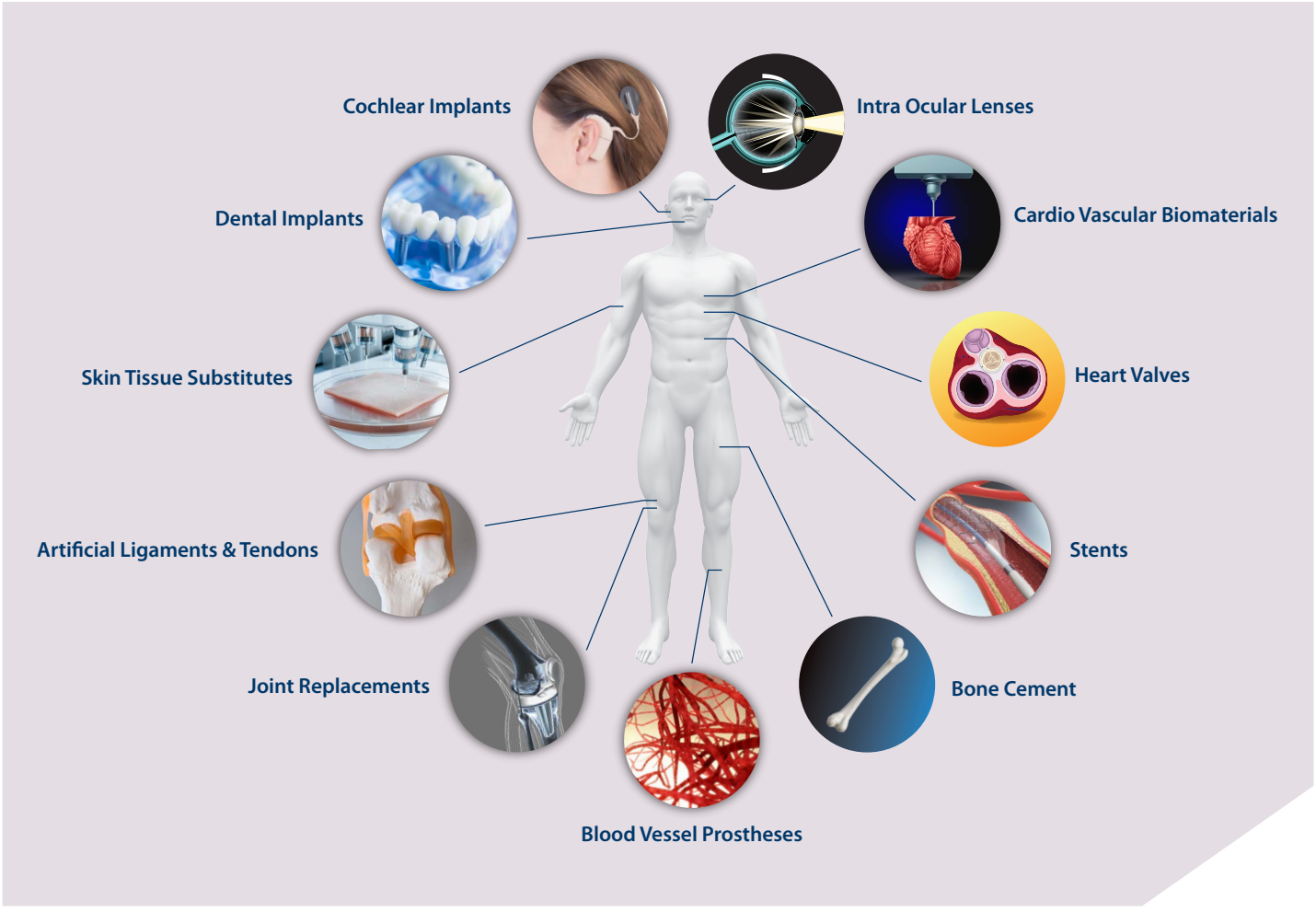
- Polylactides (PLA)
- Polyglcolides (PGA)
- Poly(lactide-coglcolides) (PLGA)
- Polycaprolactone (PCL)
- Alloys of the above

Implantable polymer enhancements and functionality:

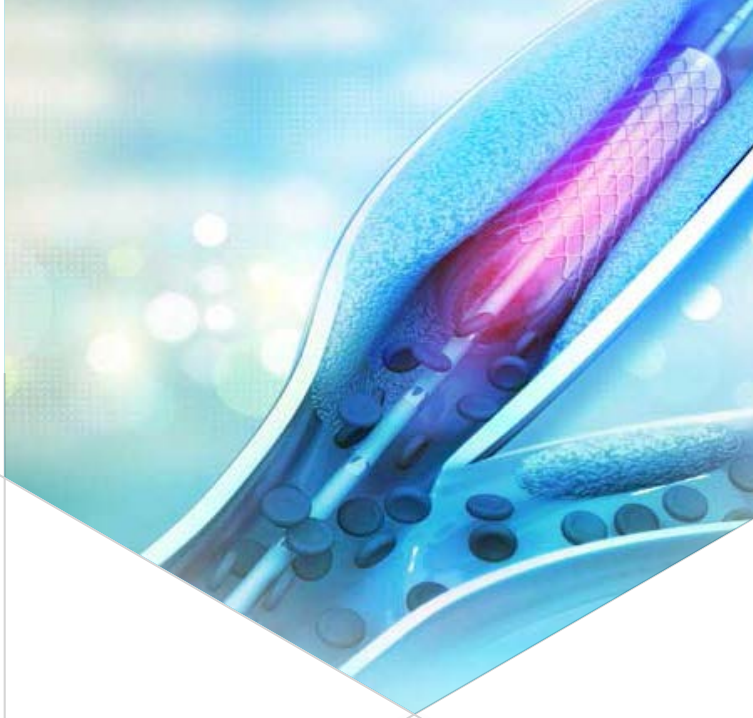
- Osteoconductivity
- Pre-colored
- Radiopaque filled
- Antimicrobial
- Reinforcement
- MRI and ultrasound functionality
- Other as needed

PERMANENTLY IMPLANTABLE APPLICATIONS

- Sutures
- Dental devices
- Orthopedic fixation (metal replacement)
- Tissue fixation
- Bone screws, etc.
- Biodegradeable stents
- Bone and tissue engineering
- Spinal cages
- Cosmetic surgery: thread lift
- Wraps to hold tissue masses in place



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FOSTER,LLC
45 Ridge Road, Putnam, CT 06260
1+ 860.928.4102
geon.com/medical
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