



EUROPE'S DEDICATED MEDICAL POLYMER COMPOUNDER

IPC – Innovative Polymer Compounds

Company Overview

Europe's Dedicated Medical Polymer Compounder



Capabilities of IPC

- Introduction to IPC – Innovative Polymer Compounds
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Introduction to IPC - Innovative Polymer Compounds

- Founded in 2008
- IPC manufactures polymer compounds: A mixture of virgin polymer, pigments and functional additives supplied as pellets
- Our polymer compounds are used exclusively in the medical device industry
- Utilised in long-term implantable, short-term implantable as well as external devices
- Global customer base including Europe, the Middle East, Asia and the USA



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Why IPC – Innovative Polymer Compounds

- ISO 13485 certified

More transparent, more detailed Certificates of Conformity (COC), Certificates of Analysis (COA) and Regulatory Declarations which are supplied in a more timely manner

- Wide range of ISO 10993 Polymers compounded including but not limited to ABS/PCABS, PA11/PA12, PC, PE, PEBA, PEEK, PEKK, PLA, PLA/PHA, PP, PPSU & TPU

- Wide range of Functional Additives and fillers such as Antimicrobials, Antioxidants, Laser Markers, Calcium, Radiopacifiers, Slip additives, HALS, etc.



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Why IPC – Innovative Polymer Compounds

- In house colour matching of ISO 10993 approved pigments for coloured compounds (Pantone, RAL, sample)
- Minimum 2-year notification of change agreement with most suppliers. Local warehousing offers security of supply
- Short lead-times and flexible lot sizes, from 25kg (2kg for some polymers) to 10,000+ kg
- With a flat management structure, we provide unparalleled customer service and technical support to the highest industry standards – we support you from concept through to production.

Research & Development – How can IPC help you?

IPC get more and more involved with customers at the R&D stage of projects right through to commercialization

This can be from the initial material selection stage where IPC can offer polymer expertise and advise customers on suitable grades

Finding suitable additives to suit specific applications is also important. This is offered to customers at R&D stage by IPC

See this example of how IPC represent data on various suitable grades for a project

ABS Grade	Suitable for Inj. Moulding?	MVR (230°C/10kg)	Tensile Modulus	Flexural Modulus	Charpy notched impact 23°C	ISO 10993	Sterilisation	Properties
Elix Healthcare ABS Grades								
Elix M203 FC	Yes	31 cm ³ /10min	2,200 MPa	2,400 MPa	15.0 kJ/m ²	Yes	EtO, NO ₂ , Irradiation	Easy flow, high gloss
INEOS Styrolution Healthcare ABS Grades								
Novodur HD15	Yes	15 cm ³ /10min	2,300 MPa	-	14.0 kJ/m ²	Yes	EtO, NO ₂ , Irradiation	Good Chemical resistance
Sabic Healthcare ABS Grades								
Cycolac HMG94MD	Yes	11.7 g/10min	2,480 MPa	2,620 MPa	240 J/m	Yes	EtO, Gamma	Superior flow, thin wall applications

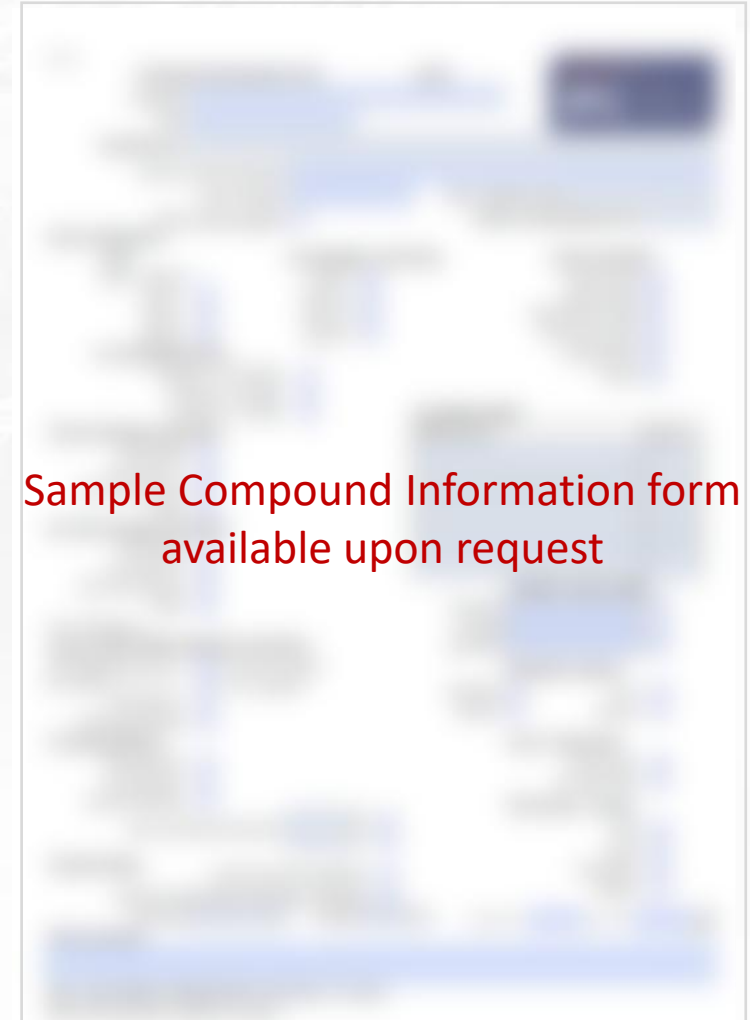
Regulatory Support





Documentation – Compound information

- Required to ensure that detailed information about the application is captured early on in the process
- Allows for quicker quotation response
- Reduces the possibilities for errors to occur during quotation and manufacturing process
- Allows the customer to engage closely with IPC in new product development

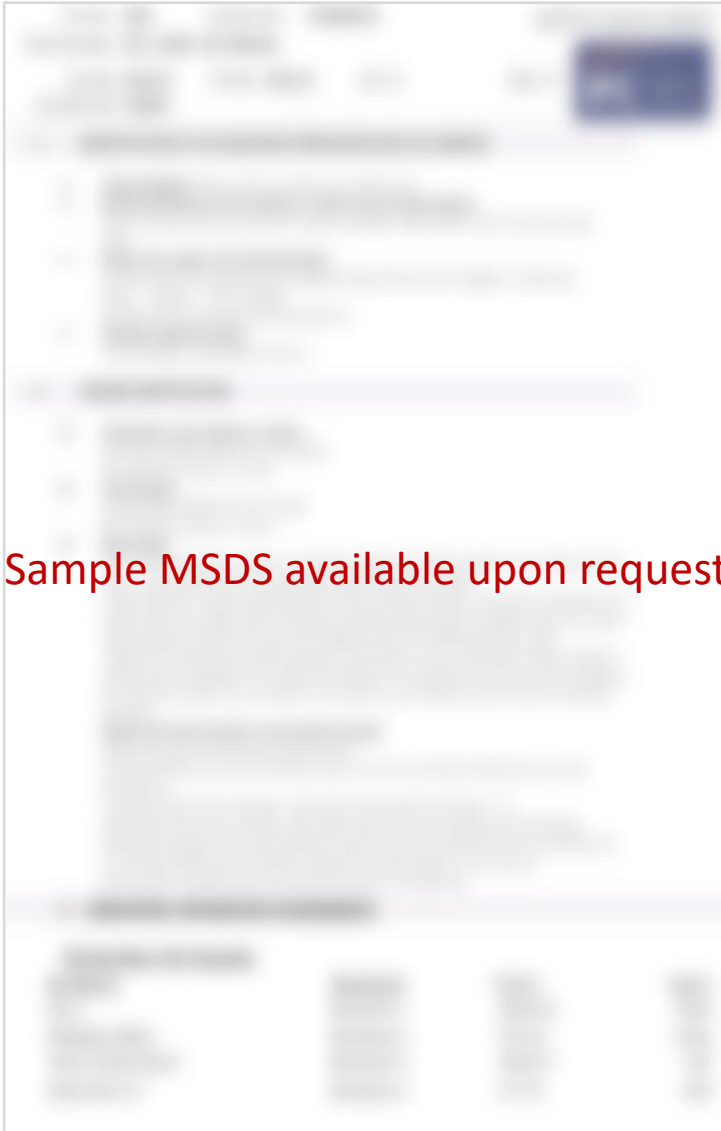


Sample Compound Information form
available upon request

Documentation – TDS & MSDS



Sample TDS available upon request



Sample MSDS available upon request

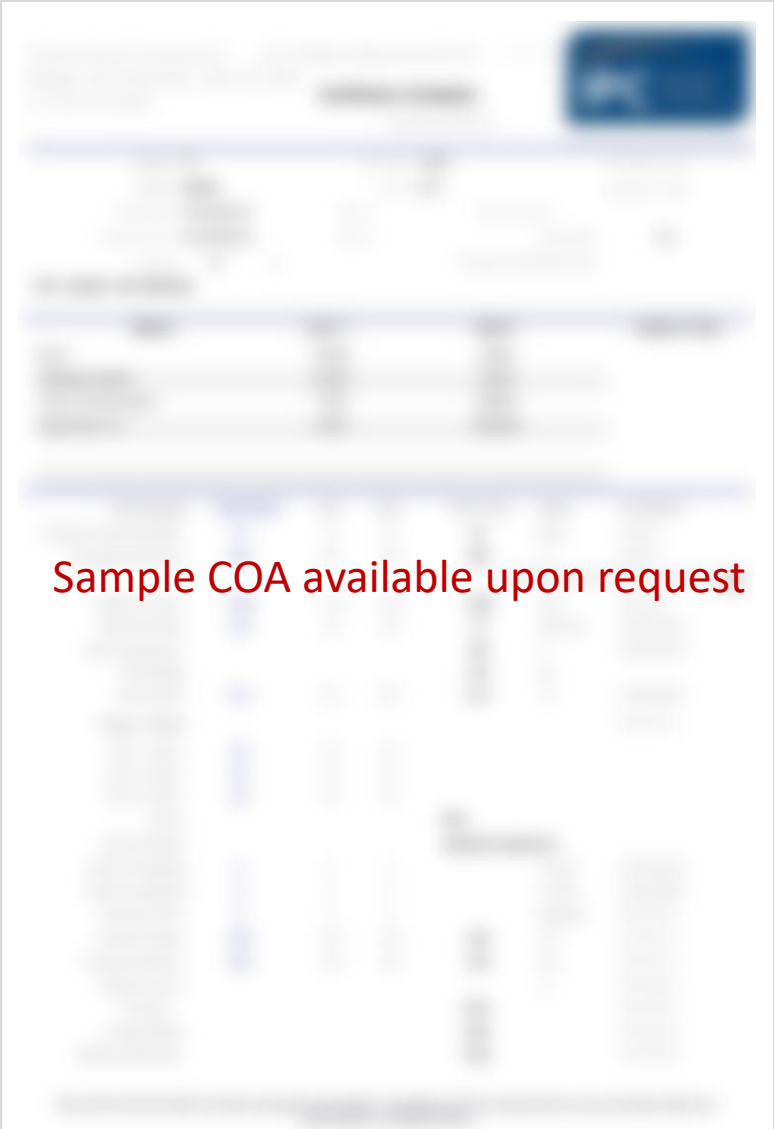


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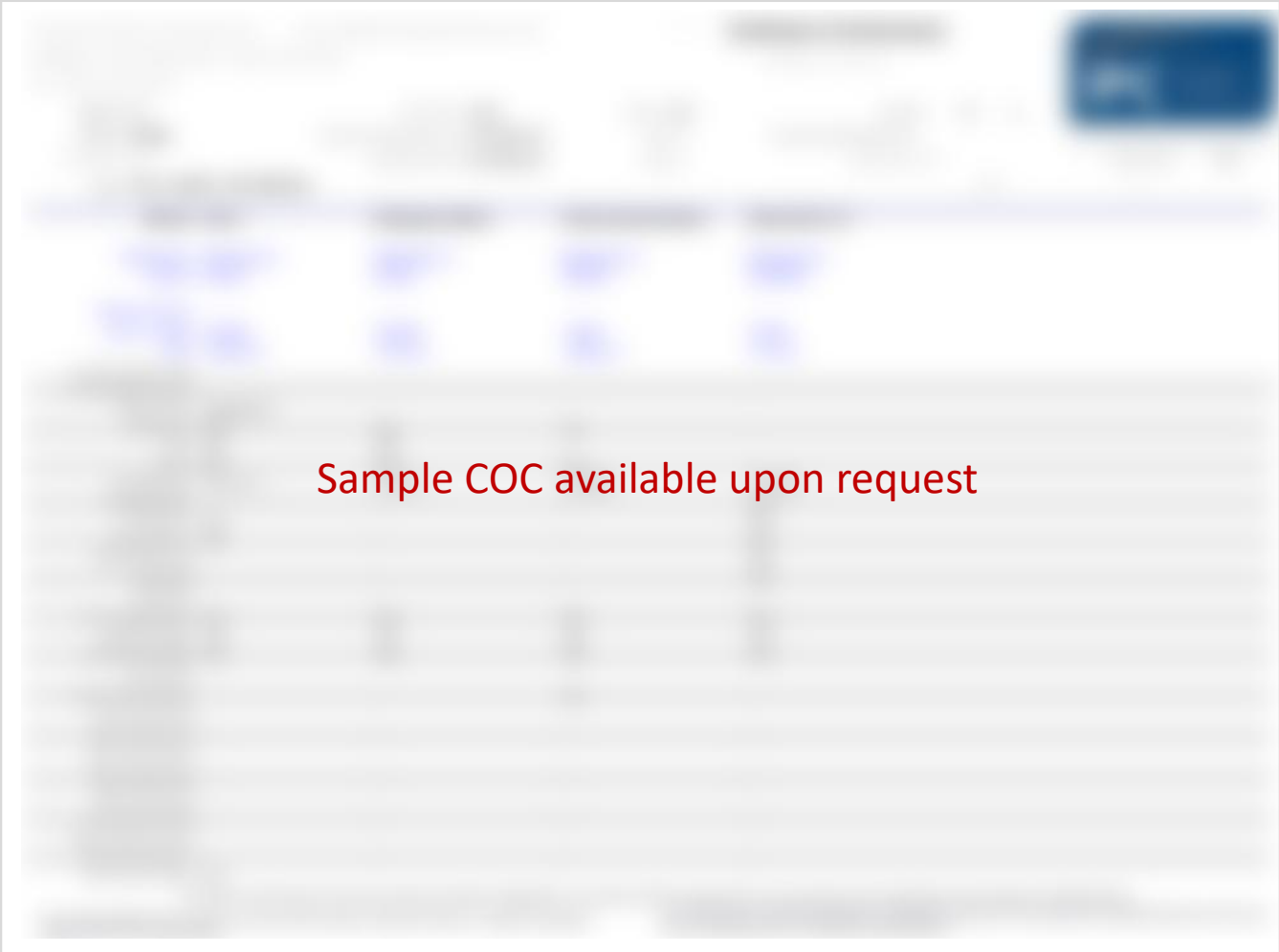
Documentation – COA & COC



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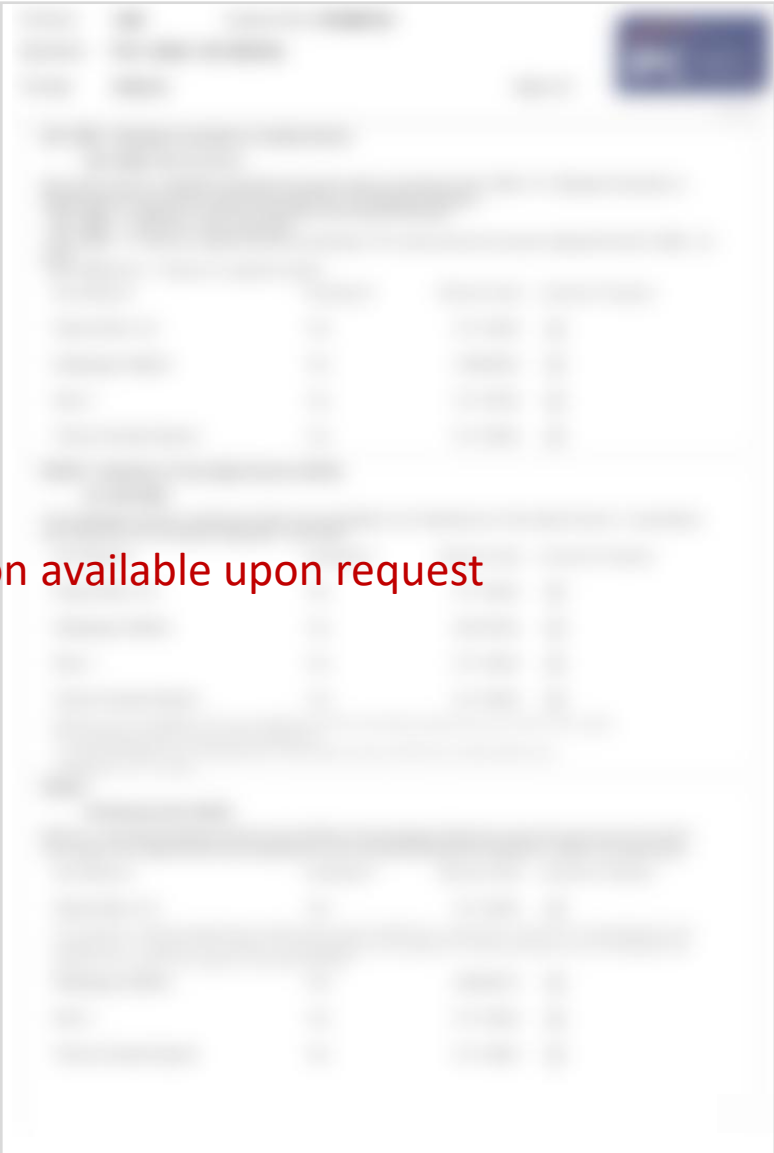


Sample COA available upon request



Sample COC available upon request

Documentation – Regulatory Declaration



Sample Regulatory Declaration available upon request



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Applications





Where do our Compounds go? – Applications



Materials & Additives



Materials & Additives – Polymers

Product Name	Polymer Type	Manufacturer
Purasorb Grades	L/DL Lactides	Corbion
ELIX Grades	ABS	Elix Polymers
Cyclac Grades	ABS	Sabic
Novodur Grades	ABS	Styrolution
Tritan Grades	Copolyester	Eastman
Bormed HDPE Grades	HDPE	Borealis
Marlex Grades	HDPE	Chevron Phillips Chemical Co.
DOW Grades	HDPE	Dow Chemical Company
Alathon Grades	HDPE	LyondellBasell
Purell HDPE Grades	HDPE	LyondellBasell
Vistamaxx Grades	ISO Prop random Ethy.	Exxon Mobil
Bormed LDPE Grades	LDPE	Borealis
Purell LDPE Grades	LDPE	LyondellBasell
Orevac Grades	LDPE	SK Functional Polymers
Dowlex Grades	LLDPE	Dow Chemical Company
Terlux Grades	MABS	INEOS - Styrolution
Trogamid PA Grades	PA PA CM12	Evonik Industries
Rilsan Grades	PA11	Arkema
Rilsamid Grades	PA12	Arkema

Materials & Additives – Polymers

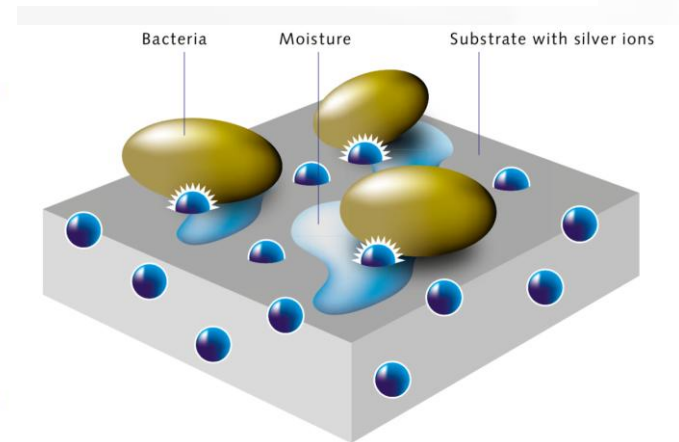
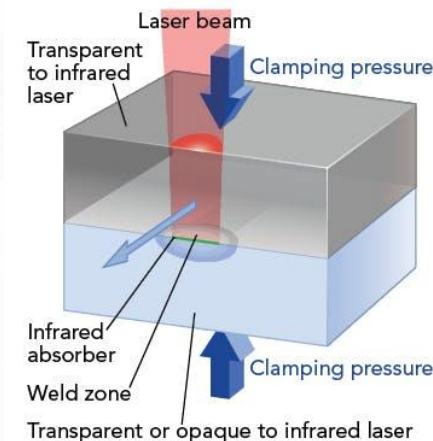
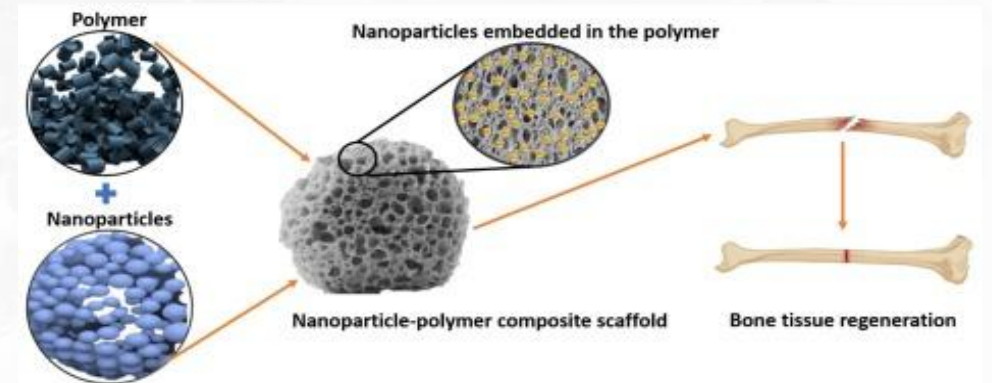
Product Name	Polymer Type	Manufacturer
Grilamid Grades	PA12	EMS-Grivory
Vestamid CARE Grades	PA12	Evonik
Trogamid Grades	PA12	Evonik Industries
Grilflex Grades	PA12 - Elastomer	EMS-Grivory
Celanex Grades	PBT	Celanese Corp.
VALOX Grades	PBT/PC	SABIC
Makrolon Grades	PC	Covestro
Lexan Grades	PC	Sabic
Calibre Grades	PC	Trinseo
Bayblend Grades	PC/ABS	Covestro
Cycloy Grades	PC/ABS	Sabic
Makroblend Grades	PC/PBT	Covestro
Pebax SA01 MED Grades	PEBA	Arkema
Vestamid Care ME Grades	PEBA	Evonik
KETASPIRE Grades	PEEK	SYENSQO
SKYGREEN Grades	PETG	SK Chemicals
Purasorb Grades	PLA	Corbion
Purell Plastomer Grades	Plastomer	LyondellBasell
Hostaform Grades	POM	Celanese Corp.
Bormed Grades	PP	Borealis

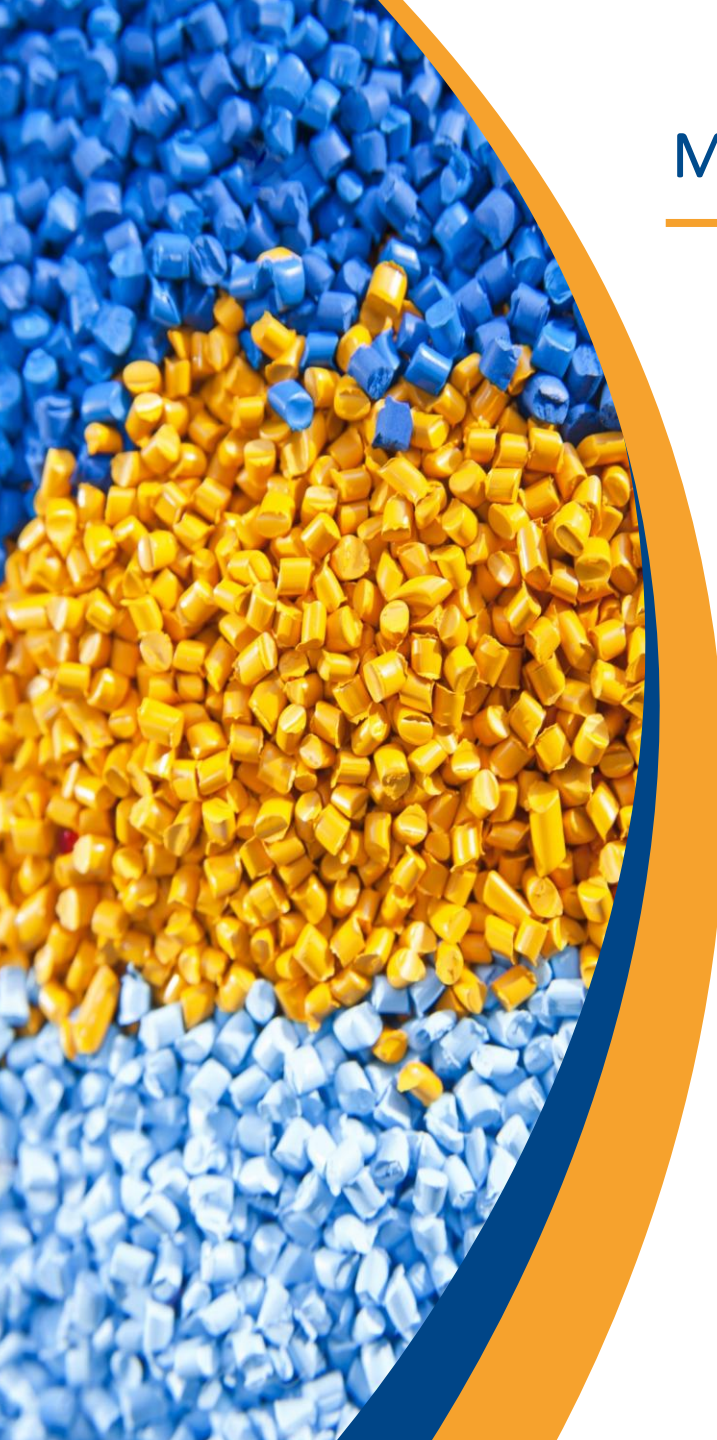
Materials & Additives – Polymers

Product Name	Polymer Type	Manufacturer
23R2A Grades	PP	Flint Hill Resources
Profax Grades	PP	LyondellBasell
Purell PP Grades	PP	LyondellBasell
Radel Grades	PPSU	SYENSQO
Veriva Grades	PPSU	SYENSQO
Udel Grades	PSU	SYENSQO
Kollidon Grades	PVP	BASF
ProvaMed Grades	TPE	Actega
Versaflex Grades	TPE	GLS Thermoplastic Elastomers
Thermolast M Grades	TPE	Kraiburg TPE
Meliflex Grades	TPE	Melitek
Medalist Grades	TPE	Teknor Apex
Texin Grades	TPU	Covestro
Carbothane Grades	TPU	Lubrizol Advanced Materials Inc.
Isoplast Grades	TPU	Lubrizol Advanced Materials Inc.
Pellethane Grades	TPU	Lubrizol Advanced Materials Inc.
Tecoflex Grades	TPU	Lubrizol Advanced Materials Inc.
Tecophilic Grades	TPU	Lubrizol Advanced Materials Inc.
Tecothane Grades	TPU	Lubrizol Advanced Materials Inc.
Elastollan Grades	TPU	BASF

Materials & Additives – Functional Additives

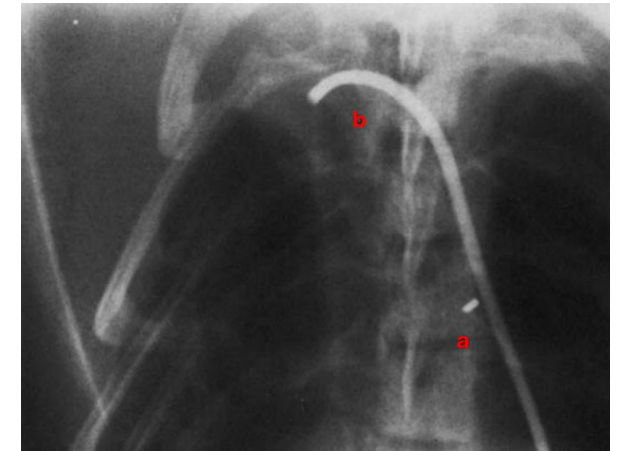
Additive Type
Radiopacifiers – Barium Sulphate, Tungsten, BiO ₂ (CO ₃), BiClO.
Low Coefficient of Friction - <i>Slip</i>
HALS – Heat & Light Stabilisers
Laser <i>Marking</i> Additives
Laser <i>Welding</i> Additives
Osseoconductive – Hydroxyapatite, Beta-TCP, etc.
Antimicrobial
ISO 10993 Pigments
And many more..





Materials & Additives – Radiopaque Fillers

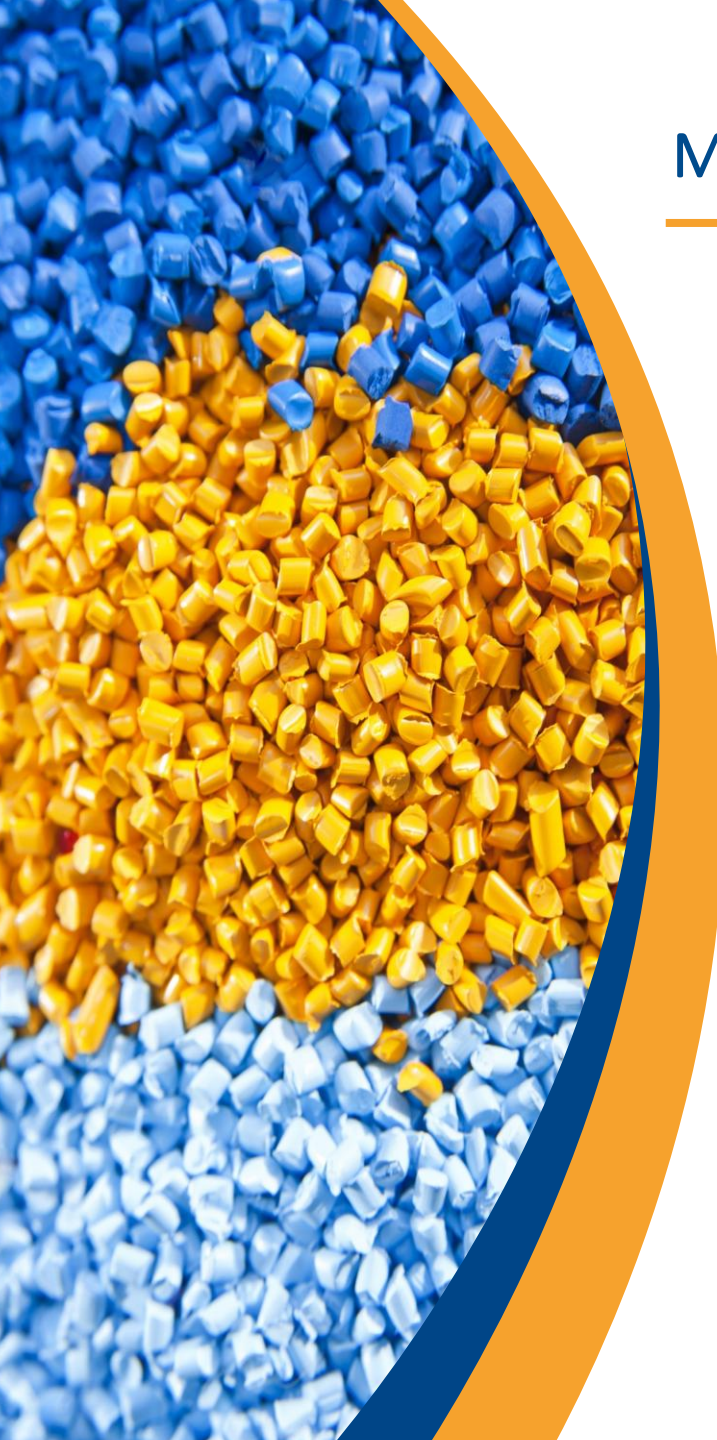
- Barium Sulphate - BaSO₄
- Bismuth Oxychloride - BiOCl
- Bismuth Oxide - Bi₂O₃
- Bismuth Subcarbonate - Bi₂O₂(CO₃)
- Tungsten - W (Not Tungsten Carbide)



Materials & Additives – ISO 10993 Pigments

Type	Shade*
Titanium Dioxide	
Pigment Green 7	
Pigment Yellow 183	
Pigment Blue 15.3	
Pigment Blue 15.1	
Pigment Violet 19	
Pigment Red 254	
Pigment Red 122	
Pigment Orange 64	
Pigment Blue 15.3	
Pigment Black 7	
Pigment Blue 29	
Pigment Red 202	
Pigment Yellow 191:1	





Materials & Additives – Colourants

- IPC also match trans colours, which are more challenging due to their transparency
- IPC can match colour to an existing part as well as colour standard (Pantone, RAL, etc.). This may be desirable where multiple parts are in close proximity
- Surface texture and lighting can have a significant impact on colour perception. IPC use colour cabinets to accurately review colour. When comparing matt to gloss, and using ambient vs. natural light
- Thermally stable pigments available for high temperature polymers.
- Due to pigment limitations, some colours can be difficult with our Biocompatible pigments. Alternatives available

IN ALL CASES, MINIMUM WALL THICKNESS IS REQUIRED



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Thank You!

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