



MARFRAN

ELASTOMERS. WITH PASSION

TPE COMPOUNDS

PERSONAL CARE
FOOD CONTACT APPLICATIONS
DRINKING WATER
ANTIMICROBIALS
BIOCOMPATIBILITY



MARFRAN® A WORLD OF POSSIBILITIES

MARFRAN® is the commercial brand of our products, all obtained with sophisticated mixing processes. The elastomeric portion of the compounds is composed of styrene rubber while the plastic part is composed of polyolefin, namely: polypropylene (PP), polyethylene (PE), ethylene vinyl acetate (EVA), styrene polymers (PS e HIPS).

SBS based TPE-S: polyolefin polymers or styrene polymers with SBS elastomer. Compounds for injection and extrusion molding: soft touch, easy to process, colorable, high transparency, highly elastic, resistant to abrasion, in various flexural modulus and hardness.

SEBS based TPE-S: polyolefin polymers and others with the SEBS elastomer. Compounds for injection and extrusion molding: soft touch, guarantees optimal ageing and atmospheric resistance, low compression set, high elasticity, easy to process, colorable, high transparency.



FOOD CONTACT

MARFRAN® E is produced with raw materials suitable for food contact according with national and international norms: European Commission Regulation (EU) No 10/2011 “Plastic materials and articles intended to come into contact with food”, U.S. FDA CFR (Code of Federal Regulations) Chapter 21 §177.1520 “Olefin polymers” and §177.1810 “Styrene block-polymers”.



DRINKING WATER

For many years MARFRAN has been offering specific compound formulations for contact with drinking water, suitable for extrusion technology for different application fields, such as gardening and shower hoses, hoses for transporting fluids in the food, water and household appliance sectors. In order to better respond to the ever more demanding market requirements, as well as the increase in legislative specifications in the sector, MARFRAN has developed and launched the new MARFRAN E KPW family in accordance with the new and more stringent requirements of the German KTW-BWGL standard. Maintaining the same processability characteristics as our standard grades, as well as high transparency and mechanical properties, the new MARFRAN E KPW family guarantees the absence of plasticisers in a hardness range of 50 to 95 ShA. Compliance with restrictive requirements for products intended for use in contact with drinking water.



- We ensure declarations of suitability for products: REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals).
- Directives 2002/95/CE (ROHS), 2002/96/CE (RAFF) and 2000/53/CE (ELV).
- Presence of Substances of Very High Concern (SVHC).
- Free from Phthalates, Polycyclic Aromatic Hydrocarbons (PAH's), Polybrominated biphenyl (PBB), Polybrominated biphenyl ether (PBDE).
- Compliance with restrictive requirements for products intended for use in contact with drinking water
- European Union food contact declaration and U.S. FDA dietary suitability.
- EN-71 safety requirements for toys.
- Biocompatibility, USP Class VI and ISO 10993 certification for medical compounds.
- Antimicrobial active compounds.
- Most recent ISO 9001/UNI EN ISO 9001:2015 quality management certifications and ISO 13485:2016 and the rules of Good Manufacturing Practices.





GOALS

- Respect for the environment.
- Constant monitoring to limit waste of water and energy resources.
- Timely compliance Environmental, Protection and Safety regulations.
- Research and development production processes that reduce environmental impact.
- Waste management, disposal, and use of renewable resources for eco-friendly production.



BIOCOMPATIBILITY

MARFRAN.MED® is produced in accordance with ISO 9001 and ISO 13485 (norm for medical device manufacturing).

We certify each compound to ISO 10993 (guideline for Biocompatibility Safety Assessment of Medical Devices for body) and USP Class VI (United States Pharmacopeia standards for quality, purity, strength and consistency – we have passed the top Class VI by succeeding in all the tests requirements because our compound has a very low level of toxicity).

We have also tested our compounds to The European Pharmacopoeia Ed. 8.1 2014. Our products passed the tests for acidity and alkalinity, absorbance and extractable materials (aluminum, chromium, titanium, vanadium, zinc and heavy metals).



ANTIMICROBIAL

MARFRAN.MED® Au is a new-patented SEBS based compound that contains Usnic Acid, a naturally antibiotic derivative found in several lichen species. Usnic acid possesses a wide range of interesting biological properties. It is a potent antibiotic effective against Gram-positive bacteria, including Staphylococcus, Streptococcus, and Pneumococcus, other bacteria such as Mycobacterium tuberculosis, and some pathogenic fungi.

MARFRAN.MED® Au demonstrates effectiveness of incorporated/bound antimicrobials performance, especially against Gram-positive bacteria (with 99.90% of success), according to Norm ASTM E2180-07.



PHTHALATES FREE

Our compounds do not contain latex or any substance that may cause allergies. They do not contain PVC or plasticizers with phthalate and we banned the use of Polycyclic Aromatic Hydrocarbons (IPA), PBB and PBDE.



MEDICAL

TPE for medical purposes are produced in a clean room according to ISO 13485 (managing the quality for medical items). Our compounds can be sterilized in autoclave and by gamma-ray. They are biocompatible and carefully selected.

The high processability allows obtaining semi-finished products characterized by:

- High flexibility, soft touch, modifiable hardness.
- Free of PVC, silicone and latex in the entire production chain.
- Very high transparency and colored compound.
- High precision and dimensional consistency.
- Stable working conditions and process.
- High performance in 2K molding process. Adhesion to polyolefin with co-extrusion and molding processes, special grades for adhesion to PC, ABS, PMMA, SAN, ASA, PA6.
- Short drying process, guarantee of rheological homogeneity of the batch.
- Easy assembly, short cooling times, no moisture absorption over time.
- No external migration phenomenon for the oil-free compounds.
- Limited thermal degradation (no black spots, no yellowness) in the normal process range (160°C - 220°C).
- Wide range of operating temperatures (-50°C to 125°C in function of the hardness).

MARFRAN® GRADES OVERVIEW

TPE based on SBS GRADE	Aspect	Hardness ShA	Density (g/cm³)	Food contact Grade	Compliant with
MARFRAN® B CV2	transparent	45-85	0.94	X	EN 71/3 for toys
MARFRAN® B F1	translucent	40-95	0.91	X	EN 71/3 for toys
MARFRAN® B F2	matt	40-90	1.02-1.00	X	EN 71/3 for toys
MARFRAN® B MNT	matt	30-65	1.05-1.06	X	BHT FREE

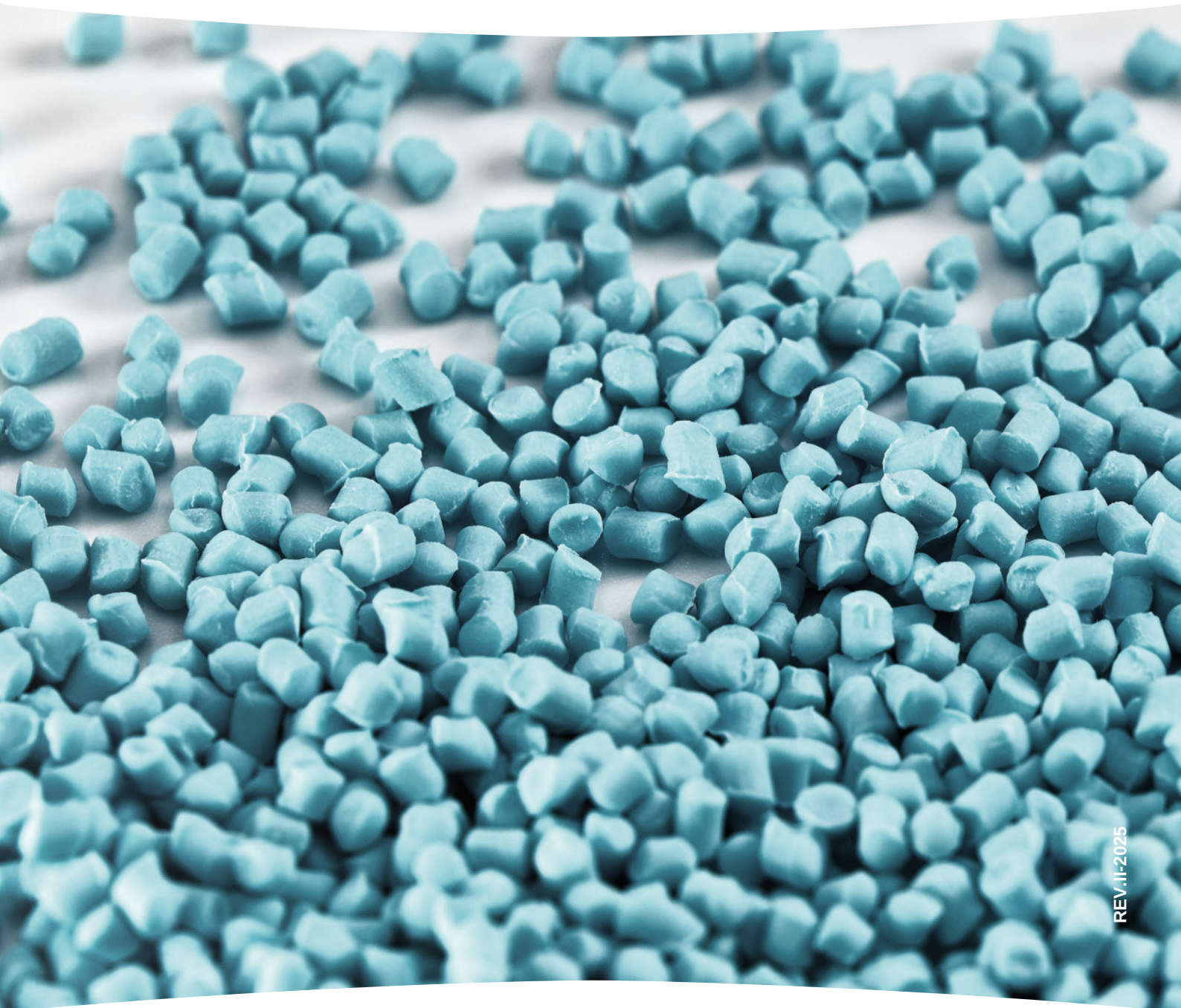
TPE based on SEBS GRADE	Aspect	Hardness ShA	Density (g/cm³)	Food contact Grade	Compliant with
MARFRAN® E DRW HC	translucent	30-90	0.89	X	

MARFRAN® E DRW HOF	transparent	50-95	0.89	X	WRAS
MARFRAN® E FG1	translucent high fluidity	20-95	0.89	X	EN 71/3 for toys
MARFRAN® E FG2	matt high fluidity	20-95	1.00	X	EN 71/3 for toys
MARFRAN® E FG3	matt high fluidity	20-95	1.11	X	EN 71/3 for toys
MARFRAN® E FKK	transparent high fluidity	30-95	0.89	X	EN 71/3 for toys
MARFRAN® E G1	translucent	20-95	0.89	X	EN 71/3 for toys
MARFRAN® E G12	translucent	30-90	0.91	X	EN 71/3 for toys
MARFRAN® E G2	matt	30-95	1.00	X	EN 71/3 for toys
MARFRAN® E G3	matt	30-95	1.11	X	EN 71/3 for toys
MARFRAN® E HEK	transparent high tensile	20-30	0.89	X	EN 71/3 for toys
MARFRAN® E KK	transparent	30-95	0.89	X	EN 71/3 for toys
MARFRAN® E KKC	translucent	40-90	1.02	X	EN 71/3 for toys
MARFRAN® E KPA	transparent oil free	50-90	0.89	X	EN 71/3 for toys
MARFRAN® E LF	translucent low fogging	30-90	0.87	X	EN 71/3 for toys
MARFRAN® E M1	translucent high mech. properties	30-90	0.89	X	EN 71/3 for toys
MARFRAN® E M1E	translucent	50-90	0.89	X	
MARFRAN® E M2	matt high mech. properties	30-90	1.06-1.02	X	EN 71/3 for toys
MARFRAN® E M2E	matt	50-90	0.99	X	
MARFRAN® E M3	matt high mech. properties	30-90	1.15-1.11	X	EN 71/3 for toys
MARFRAN® E M3E	matt	50-90	1.18-1.13	X	
MARFRAN® E SM1	translucent top mech. properties	30-90	0.89	X	EN 71/3 for toys

MARFRAN® GRADES OVERVIEW

TPE based on SBS GRADE	Tensile Strength (Mpa)	Elongation at break (%)	Tear strength (N/mm)	Injection Moulding	Extrusion
MARFRAN® B CV2	4.5-11.0	900-800	22.00-60.0	X	
MARFRAN® B F1	2.5-8.0	900-500	18.0-47.0	X	
MARFRAN® B F2	2.3-6.5	650-450	16.0-40.0	X	
MARFRAN® B MNT	2.0-2.5	840-400	13.0-20.0	X	

TPE based on SEBS GRADE	Tensile Strength (Mpa)	Elongation at break (%)	Tear strength (N/mm)	Injection Moulding	Extrusion
MARFRAN® E DRW HC	3.0-14.0	800	16.0-60.0	X	X
MARFRAN® E DRW HOF	11 -20	800-700	23-74	X	X
MARFRAN® E FG1	4.0-13.0	950-700	12.0-44.0	X	
MARFRAN® E FG2	3.5-12.0	950-700	11.0-44.0	X	
MARFRAN® E FG3	2.0-10.0	900-600	10.0-40.0	X	
MARFRAN® E FKK	2.5-10.0	700-650	10.0-45.0	X	
MARFRAN® E G1	3.0-13.0	800-700	9.0-44.0	X	X
MARFRAN® E G12	4.0-12.0	800-700	12.0-42.0	X	X
MARFRAN® E G2	3.5-12.0	800-700	12.0-44.0	X	X
MARFRAN® E G3	2.6-8.5	750-650	10.0-40.0	X	X
MARFRAN® E HEK	4.0-5.0	750	12.0-18.0	X	X
MARFRAN® E KK	3.5-12.0	700-650	10.0-50.0	X	
MARFRAN® E KKC	2.5-10.5	700-650	16.0-43.0	X	
MARFRAN® E KPA	9.5-12.5	700	22.0-52.0	X	X
MARFRAN® E LF	4.8-12.0	850	10.0-44.0	X	
MARFRAN® E M1	4.5-12.0	800	10.0-44.0	X	X
MARFRAN® E M1E	6.0-11.0	750	18.1-40.0		X
MARFRAN® E M2	4.0-11.0	700	10.0-43.0	X	X
MARFRAN® E M2E	5.5-11.0	750-700	18.0-40.0		X
MARFRAN® E M3	3.5-10.0	700	10.0-43.0	X	X
MARFRAN® E M3E	5.5-10.0	750-700	18.0-39.0		X
MARFRAN® E SM1	6.0-16.0	800	19.0-55.0	X	X



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