



Quadrant Food Grade Materials

Engineering Plastic Stock Shapes for the Food Industry
Compliant to European Union Regulation (EU) 10/2011

Certified Plastic Materials for Safe and Cost-effective Production

Trends in food processing & packaging

The efficiency in production and the quality of products has considerably improved in the food industry in recent years. Newly developed high performance engineering plastics have made significant contribution to this. In modern food production systems, plastic products support essential process steps such as processing, handling, conserving, packing and storing. Consumers already benefit from these improved processes and rightfully expect the highest possible safety standards in the production of food and beverage products. Trends such as global raw material imports, differences in control rules and incomplete legislation negatively influence the quality assurance in these sensitive sectors.

New European Union Regulation (EU) 10/2011 enables production safety

Historically, for plastics in direct contact with food products a harmonized European legislation had been valid for about ten years and was implemented nationally by the member states, thus enabling common standards: the Directive 2002/72/EC.

To better monitor the processes in future, European legislation has made changes in the regulations for safety in food production. Since May 2011 these apply to all European Union member states. They replace the Directive 2002/72/EC and are summarised under the new Regulation (EU) 10/2011.

FDA approvals are not affected by the new regulation and remain unchanged.



Quadrant's Food Grade materials provide certification on highest safety level

Addressing to the very high quality and safety standards in the food industry Quadrant has updated its range of Food Grade plastics according to the new Regulation (EU) 10/2011: all Food Grade products are processed and handled according to the new regulation and to the guidelines of GMP (Good Manufacturing Practice).

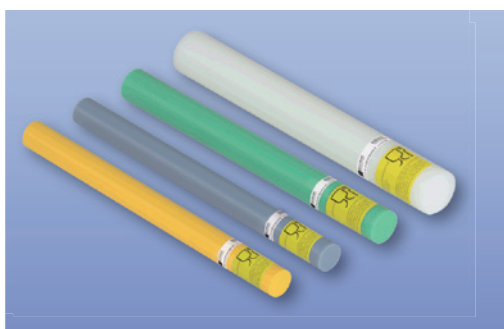
Every delivery is accompanied by a Declaration of Compliance with the Order (DCO) - full traceability guaranteed - and a Declaration of Compliance (DoC) according to the Food Regulation (EU) 10/2011. Customers get a wide selection of products and design possibilities to reach the best possible cost-performance-ratio. Quadrant furthermore provides help for migration calculation.



Good Manufacturing Practice (GMP)

Quadrant produces semi-finished stock shapes and manufactures customised finished parts according to the guidelines of GMP.

These guidelines are part of a quality system covering the manufacture and testing of food products.



GMP guidelines guarantee highest quality standards of our Food Grade products. Complete documentation from choice of raw material to finished parts allows full traceability and supports your own product control efforts.

Declaration of Compliance

Quadrant is constantly developing product and application solutions that help you improve your production performance – today and in future.

Our Food Grade programme is already targeted to fulfil the documentation requirements that will be valid as of the year 2016. Every delivery is accompanied by a

Declaration of Compliance according to Regulation (EU) 10/2011

which is a further development of Directive 2002/72/EC for plastic materials in contact with food and includes much stricter test conditions for migration.

Declaration of Compliance with the Order guarantees traceability

The Declaration of Compliance with the Order ensures the uninterrupted traceability of the plastic product from the stock shape back to the raw material used by batch. At Quadrant each production step is reliably tested and documented. This traceability is required by law for modern food processing. Each product is marked with material type, production lot and size. Each delivery comes along with a Declaration of Compliance with the Order according to EN 10204-2.1

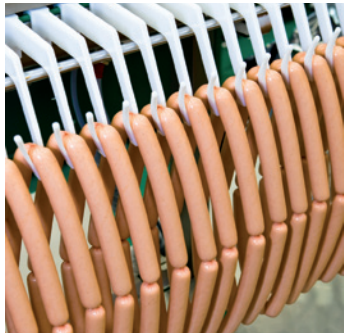


TVNAT PL UV1000 50x1Mx2M PLN E



Lot 8475105

Customer Benefits



■ **Broadest portfolio of certified Food Grades**

Food processors profit from the broadest portfolio from PE up to PEEK materials and best established know-how in the industry. Quadrant constantly works on innovation of specialised engineering plastics. Our offering contains special developments like Metal Detectable or Antistatic materials and is an ongoing process in close cooperation with our customers.

■ **Product safety through Good Manufacturing Practice (GMP)**

Product safety for you: All shapes and finished parts made from Quadrant Food Grades are produced according to most modern production standards including consistent quality control (GMP).

■ **Declaration of Compliance**

Every delivery is accompanied by a Declaration of Compliance according to latest regulation status. This declaration considerably reduces your own in-house testing time and costs. As the only manufacturer in the market Quadrant provides the declaration including the complete test conditions.

■ **Material selection and application consulting**

Customers benefit from Quadrant's international partner network that helps OEMs select the right material for their application. Our application advice considers the individual type of food that gets into contact with the plastic parts. Consulting is based on temperature and food contact time of your individual application.

■ **Migration calculation support**

Migration = Out-leaching of substances from solid contact material into the food stuff.

Product safety on all stock shapes: The independent, external laboratory INTERTEK has tested the migration values of all Quadrant Food Grades. These tests were performed according to regulation (EU) 10/2011. Their results are stated in our Declaration of Compliance. Your own calculation of the migration value in your individual application becomes very easy with the help of these pre-tested values.

The migration tests on our Food Grades include testing per OML and SML guidelines:
OML = Overall Migration Limit: measures the inertness of a material
SML = Specific Migration Limit: proves the toxicological evaluation of individual substances
Quadrant, however, can only offer calculation support and give material recommendations. The final choice of material used in a specific application is the customer's own responsibility.

■ **Stock Availability**

We offer a wide range of standard and sub-standard formats, most of them available from stock. Please consult us for further details.

More than 30 Quadrant Food Grade Products

– More than 30 options for your successful production process

Quadrant EPP Stock Shape	Base Polymer	DoC 1935/2004 acc. to (EU) 10/2011 New Food Grade (1)	DoC 1935/2004 acc. to 2002/72/EC Previous Food Grade (2)	FDA compliant (3)
Ketron® 1000 PEEK natural	PEEK	+	+	+
Ketron® 1000 PEEK black	PEEK	+	+	+
Ketron® TX PEEK blue	PEEK	+	+	+
Techtron® PPS natural	PPS	NT	NT	+
Techtron® HPV PPS deep blue	PPS	+	+	+
Quadrant® PPSU black	PPSU	+	NT	+
Quadrant® 1000 PSU natural	PSU	NT	NT	+
Duratron® U 1000 PEI natural	PEI	NT	NT	+
Symalit® 1000 PVDF natural	PVDF	+	+	+
Symalit® 1000 PFA natural	PFA	NT	NT	+
Fluorosint® 207 white	PTFE	IT	NT	+
Fluorosint® HPV tan	PTFE	NT	NT	+
Ertalon® 6 SA natural	PA 6	+	+	+
Ertalon® 66 SA natural	PA 66	+	+	+
Ertalon® 6 PLA natural / blue	PA 6	+ / +	NT	+
Nylatron® LFG natural / blue	PA 6	NT / NT	NT	+
Nylatron® MD blue	PA 6	+	+	+
Ertacetal® C natural / blue / black	POM-C	+ / + / +	+ / + / +	+
Ertacetal® C - other colours	POM-C	NT	NT	+
Acetron® MD blue	POM-C	+	NT	+
Ertalyte® natural / black	PET	IT / IT	+ / +	+
Ertalyte® TX pale grey	PET	IT	+	+
Quadrant® 1000 PC natural	PC	IT	NT	+
TIVAR® 1000 natural / blue 7020 / green 3010	PE-UHMW	+ / + / IT	+ / + / +	+ / + / -
TIVAR® 1000 antistatic black	PE-UHMW	+	+	-
TIVAR® TECH grey-black	PE-UHMW	+	+	-
TIVAR® DS yellow, grey	PE-UHMW	+	+	+
TIVAR® H.O.T. white	PE-UHMW	+	+	+
TIVAR® CleanStat black	PE-UHMW	+	+	+
TIVAR® 1000 ASTL black	PE-UHMW	+	+	-
TIVAR® 1000 EC black	PE-UHMW	+	+	-
TIVAR® MD grey / blue	PE-UHMW	+ / +	+ / NT	+
TIVAR® OilFilled grey	PE-UHMW	NT	NT	+
Quadrant® PE 500 natural / natural / blue 7020 / green 3010	PE-HMW	+ / + / IT	+ / + / +	+ / + / -

+ Complies with the requirements of the regulations.

- Does not comply with the requirements of the regulations.

NT Has not been tested according to the requirements of the regulations.

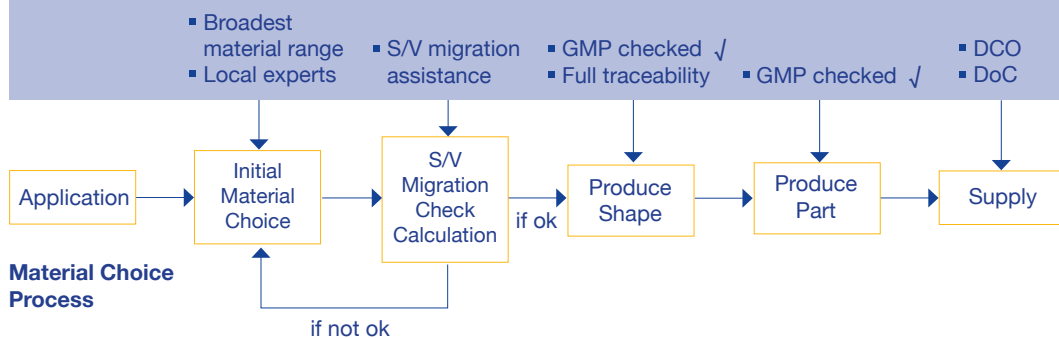
IT Tests according to the requirements of the regulations are on-going

[1] New Food Grade: Quadrant's European new "Food Grade" designated products comply with the requirements mentioned in the Regulation [EC] No 1935/2004 and the Regulation (EU) 10/2011. Further our "Food Grade" products are manufactured according to Good Manufacturing Practice [GMP] as set out in Regulation [EC] No 2023/2006.

[2] Previous Food Grade: Quadrant's European "Food Grade" designated products comply with the requirements mentioned in the Regulation [EC] No 1935/2004 and the directive 2002/72/EC. Further our "Food Grade" products are manufactured according to Good Manufacturing Practice [GMP] as set out in Regulation [EC] No 2023/2006.

[3] This column gives the compliance of the raw materials used for the manufacture of the Quadrant EPP Stock Shapes with respect to their composition as set out in the United States of America (FDA) for plastic materials and articles intended to come into contact with foodstuffs.

Quadrant support at all stages:



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