ORSA *foam* S.p.A.

Summary of Technical Specifications and Specification Variants

	Type	Density	Load-bearing characteristics				Compressive stiffness	Dynamic fatigue		Tensile strength		Residual deformation	Elasticity	Porosity	Block Size		Colours/Configuration		Certifications		
Notes		(± 5%)	Compressive force, CV 40 (± 15% on block material ± 20% on material in rolls)	Hardness determination at 25% (± 15%)	Hardness determination at 40% (± 15%)	Hardness determination at 65% (± 15%)	URL (± 20%)	Thickness loss (Max)	Loss of lift (Max)	Tensile strength (Min)	Elongation (Min)	50% compression (Max)	(Min)	(± 2)	Height BLOCKS	Width BLOCKS	BLOCKS	ROLLS	Fire behaviour	OEKO-TEX STD 100 Class 1 (CTC)	CertiPUR
		kg/m3	kPa	N	N	N	g/cm2	%	%	kPa	%	%	%	cells/cm	cm	cm					
POLYURETHANES FOR THE AUTOMOTIVE SECTOR																					
POLYETERS LF	**OFL 406 F**	**40,0**	**6,5**	**-**	**-**	**-**	**-**	**-**	**-**	**160**	**160**	**7**	**-**	**18**	**-**	**-**		**std**	**(D)**		
	OFL 457 F	**45,0**	**8,5**	**-**	**-**	**-**	**-**	**-**	**-**	**170**	**190**	**16**	**-**	**19**	**-**	**-**		**std**	**(D)**		
POLYESTERS	**OFM 257 F**	**25,0**	**4,5**	**-**	**-**	**-**	**-**	**-**	**-**	**130**	**170**	**12**	**-**	**14**	**-**	**-**		**std**	**(D)**		
	OFM 265 F	**26,0**	**4,0**	**-**	**-**	**-**	**-**	**-**	**-**	**120**	**180**	**10**	**-**	**19**	**-**	**-**		**std/grey M1**	**(D)**		
	OFM 356	**35,0**	**4,8**	**-**	**-**	**-**	**-**	**-**	**-**	**180**	**200**	**8**	**-**	**17**	**-**	**-**		**grey M1/std**			

NOTES

N New product

V Variation of specification in density and/or bearing characteristics

Change since last issue

^ Materials in block configuration are to be considered as always in stock except those with colours or dimensions accompanied by this symbol, in which case the material is produced to order.
***** Some exclusive colours
The standard (std) colours for the types in ROLL configuration are WHITE, LIGHT GREY, GREY, ANTHACITE and BLACK

HLC 'AU' Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

HLC 'AU/F1' Fire behaviour according to regulations: class HF1 according to UL 94. (C-HF1)

HLC 'HBF' Fire behaviour according to regulations: Class HBF according to UL 94. (C-HBF)

HLC 'FR' Fire behaviour according to regulations: FMVSS 302.

HLC 'LF' Polyether for flame lamination.

ORSOFT 'CM' Fire behaviour according to: Schedule 1 Part I of The Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989, 1993 and 2010, BS 5852: Part 2: 1982, source 5.

ORSOFT 'F' Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

MOON 'F' Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

NOVOLATEX 'F' Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

CM Fire behaviour according to: Schedule 1 Part I of The Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989, 1993 and 2010, BS 5852: Part 2: 1982, source 5.

WATERLILY Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. Excluding WL/A and WL VE (A)

VE AU Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

CM' RESOURCE Fire behaviour according to: Schedule 1 Part I of The Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989, 1993 and 2010, BS 5852: Part 2: 1982, source 5.

DS FOAM 'AU' Fire behaviour according to regulations: class 1 IM according to UNI 9175 with appropriate fabrics. (A)

MTP 'AU/F1' Fire behaviour according to regulations: class HF1 according to UL 94. (C-HF1)

OFL Flame-retardant polyethers for the automotive sector; 'F' with fire behaviour according to FMVSS 302 (D).

OFM Polyesters for the automotive sector; 'F' with fire behaviour according to FMVSS 302 (D).

All materials labelled 'RisORSA' and 'GAIA' are produced using raw materials from renewable sources.

All materials marked 'RICYCLA' are produced using recycled raw materials.

All materials marked '/S' contain a biocide.Biocide active substance: Tetradecyldimoniosilane (CAS: 41591-87-1).
All i-fo@m Silver materials (Si, TS, ...) contain a biocide that protects the article from colonisation by micro-organisms. Biocide active substance: Silver Phosphate Glass.

All materials marked '/SO' or '/BO' are additivated with optical brightener and/or substances that retard yellowing.

Warnings

a) The data given in the "TECHNICAL DATA SHEET/QUALITY CERTIFICATE" refer to test specimens obtained in the plane perpendicular to the direction of growth of the reacting product and not near the outer surfaces. Highly resilient materials (HR, OS, NLTX, GAIA, WL, BREEZE, ResORSA CM) must first undergo appropriate mechanical treatments to generate cell wall rupture ('manganatura' or 'calendering'). The density indicated refers to the 'clean' material. The density of the raw block must take into account an increase due to the higher density of the outer "skins".

b) We advise the user to cut the parts in such a way that during final use they are stressed in a direction parallel to the direction of growth.

c) Data and information contained in this document and in the individual Technical Specifications and Technical Data Sheets/Quality Certificates are based on the knowledge available at the date of issue (or subsequent revisions).

d) No guarantee can be given as to the sufficiency of the suggested recommendations contained in this document, nor can it be excluded that other or further measures may be required in special or exceptional circumstances.

e) The user must ensure the appropriateness and completeness of the information in relation to the particular use to be made of it.

f) In the case of fire behaviour in accordance with Schedule 1 Part I of The Furniture and Furnishings (Fire) (Safety) Regulations 1988, as amended 1989, 1993 and 2010, BS 5852 Part 2: 1982, source 5: the test requires to test the fire reaction of the upholstery in combination with a standard 100% polyester fibre flame retardant fabric; this test is normally required for application in the "DOMESTIC" sector.
We emphasise that the class of the upholstery in combination with other types of fabric can only be attributed to the complete package of products constituting the article (foam+fabric+any interposed); test normally required for application in the "CONTRACT" sector (BS 7176). Sometimes such a combination can lead to even significant variations from the fire reaction of the upholstery with the standard fabric mentioned above.
We therefore invite the customer to use the material only after having ensured that it meets the required fire behaviour characteristics.

g) In the case of fire behaviour according to UNI 9175, the product class can only be attributed to the complete package of constituent products (foam+fabric+any interposed products).
Sometimes such a combination can lead to even significant variations in the fire behaviour of the individual constituents. We therefore invite the customer to use the material only after having ensured that the artefact meets the required fire behaviour characteristics.

h) For the reference standards of the physical and mechanical properties listed in this document, see the "Technical Data Sheets/Quality Certificate" of each type.

i) The data in this document are up to date at the time of issue. ORSA foam reserves the right to change the contents at any time.

Dimensional tolerances

Cutting dimensional tolerances for materials (excluding viscoelastics) in roll configuration:

Height (cm)	- 1	+ 3

Thickness (mm)	- 0,2	+ 0,3	1.8 to 3.0 mm
Thickness (mm)	- 0,2	+ 0,4	3.1 to 5.0 mm
Thickness (mm)	- 0,3	+ 0,5	5.1 to 10.0 mm
Thickness (mm)	- 0,4	+ 0,6	10.1 to 15.0 mm
Thickness (mm)	- 0,4	+ 0,8	15.1 to 30.0 mm
Thickness (mm)	- 0,5	+ 1,3	over 30.1 mm

Length (m)	± 3%

The tolerance associated with viscoelastic materials in rolls is defined as -2/+3 mm. Furthermore, the minimum thickness achievable in this case is 15 mm.
The dimensions, for uncompressed materials, are guaranteed 30 minutes after the product has been unrolled, as the roll-up takes place under slight tension, which may cause slight transient shrinkage.
In the case of compressed materials, it is necessary to wait at least 24 hours after decompression of the material.
The material should be kept compressed for as short a time as possible, ideally only for the time needed for transport. Bear in mind that the material is compressed in line with the cut.

Cutting dimensional tolerances for materials in block configuration:

Height (cm)	- 3	+ 3
Width (cm)	- 1	+ 4
Length (cm)	- 0	+ 4
Length (cm)	- 1	+ 4

For viscoelastics, including DS FOAM

The material should be stored compressed for as short a time as possible, ideally only for the time needed for transport.
The block must not be subjected to pressure (in any direction, by compression, stacked blocks or pressed against a wall) for at least 24 hours.
For viscoelastic materials, the storage conditions for the mentioned time must take into account the thermosensitivity of the material, indicatively temperatures should be above about 15 °C.
The base should also be smooth enough to allow the material to slide.
This is because the viscoelastic material, by its nature, has little 'thrust', and a surface that is far from this condition (e.g. asphalt) could prevent the material from 'returning' to its initial measurements after compression.