

	TYPICAL DATA SHEET*	ISSUE DATE	16/June/2020
	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	HS121	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

HS121 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 14kg/m³, but other densities are possible depending on applications and equipments. HS121 is especially high strength formulated to achieve low density foam without lumps during pre expansion. This grade is not fire retardant, so it is not suitable for building applications.

Applications: Low Density Block Low density foam blocks made from HS 121 are used as thermal insulation boards for construction applications without special requirements concerning flame resistance or as packaging blanks.

Packaging and storage: HS121 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions.

In order to obtain the desired properties of HS121, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion with discontinuously operating, state-of-the-art pre expanders HS121 can be pre expanded to densities of approx. 14 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. HS121 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Moulding: HS121 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre-expansion density as closely as possible to prevent segregation during production.

Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(1.8-2.5)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	13-15
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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	TYPICAL DATA SHEET*	ISSUE DATE	16/June/2020
	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	HS221	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

HS221 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 22 kg/m³, but other densities are possible depending on applications and equipments. HS221 is especially high strength formulated to achieve low density foam without lumps during pre expansion. This grade is not fire retardant, so it is not suitable for building applications.

Applications: Medium Density Block Low- and medium-density foam blocks made from HS 221 are used as thermal insulation boards for construction applications without special requirements concerning flame resistance or as packaging blanks.

Packaging and storage: HS221 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions. In order to obtain the desired properties of HS221, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion with discontinuously operating, state-of-the-art pre expanders HS221 can be pre expanded to densities of approx. 22 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. HS221 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Molding: HS221 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre expansion density as closely as possible to prevent segregation during production.

Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(1-1.8)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	14-30
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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	TYPICAL DATA SHEET*	ISSUE DATE	16/June/2020
	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	HS321	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

HS321 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 22 kg/m³, but other densities are possible depending on applications and equipments. HS321 is especially high strength formulated to achieve low density foam without lumps during pre expansion. This grade is not fire retardant, so it is not suitable for building applications.

Applications: High Density Block, Shape Molding HS321 is used as a multi-application packaging material for contour moldings with a minimum wall thickness of 10 mm. Properly processed EPS foam packaging made from HS321 provides high mechanical strength also with low densities. It is not hygroscopic and does not become friable in low temperatures. Molded EPS packaging parts have to act as shock absorbers and cushion their content against blows from outside, i.e. they have to absorb the energy released in an impact. The mainly closed cell structure of molded foam parts made from HS321 absorbs the impact stress as "deformation work". In this process the air enclosed in the cells is first compressed, while bigger impact forces may also deform or crack the cell walls.

Packaging and storage: HS321 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions. In order to obtain the desired properties of HS321, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion With discontinuously operating, state-of-the-art pre expanders HS321 can be pre expanded to densities of approx. 22 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. HS321 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Moulding: HS321 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre expansion density as closely as possible to prevent segregation during production.

Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(0.7-1)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	18-30
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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	TYPICAL DATA SHEET*	ISSUE DATE	16/June/2020
	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	FC422	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

FC422 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 25 kg/m³, but other densities are possible depending on applications and equipments. FC422 is especially fast cycling and water proof formulated to achieve low density foam without lumps during pre expansion. This grade is not fire retardant, so it is not suitable for building applications.

Applications: High Density Block, Shape Molding .Because of its small bead size, FC422 is also used for contour moldings with a wall thickness of less than 10 mm. Molding with greater wall thicknesses permit short cooling periods. Properly processed EPS foam packaging made from FC422 provides good mould filling properties and high mechanical strength. It is not hygroscopic, and it does not become friable in low temperatures. Molded EPS packaging parts have to act as shock absorbers and cushion their content against blows from outside, i.e. they have to absorb the energy released in an impact. The mainly closed cell structure of molded foam parts made from FC422 absorbs the impact stress as "deformation work". In this process the air enclosed in the cells is first compressed, while bigger impact forces may also deform or crack the cell walls.

Packaging and storage: FC422 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions. In order to obtain the desired properties of FC422, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion with discontinuously operating, state-of-the-art pre expanders FC422 can be pre expanded to densities of approx.25 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. FC422 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Moulding: FC422 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre expansion density as closely as possible to prevent segregation during production.

Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(0.5-0.7)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	>5%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	20-30
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	FC522	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

FC522 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade is around 25 kg/m³, but other densities are possible depending on applications and equipments. FC522 is especially fast cycling and water proof formulated to achieve low density foam without lumps during pre expansion. This grade is not fire retardant, so it is not suitable for building applications.

Applications: High Density Block, Shape Molding. Because of its small bead size, FC522 is also used for very thin wall shape molding with wall thickness less than 6 mm. It is suitable for high quality products demanding improved surface finish and high strength. Properly processed EPS foam packaging made from FC522 provides good mould filling properties and high mechanical strength.

Packaging and storage: FC522 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions. In order to obtain the desired properties of FC522, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion with discontinuously operating, state-of-the-art pre expanders FC522 can be pre expanded to densities of approx. 25 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. FC522 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Moulding: FC522 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre expansion density as closely as possible to prevent segregation during production.

Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(0.3-0.5)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	22-30
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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	EXPANDABLE POLYSTYRENE (EPS)	WWW.TPCO.IR	
	WP526	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612	

WP526 is one of the TPC Performance expandable polystyrene products range. It is a free flowing expandable polystyrene grade, consisting of spherical polystyrene beads containing pentane as the expansion agent. Expandable polystyrene (EPS) is normally expanded to achieve the low densities required for final step expansion. The typical density of this grade before expansion is around 600 kg/m³ and after final expansion is 20 kg/m³, but other densities are possible depending on applications and equipments

.Applications: Shape Molding, Cups. Because of its small bead size, WP526 is also used for very thin-wall water proof shape molding products such as drinking cups.

Packaging and storage: WP526 is shipped in jumbo bag or octabins (height 158 cm) on wooden pallets (115cm x 115 cm), containing 1000 kg net of material. The octabins are not weather or water-proof and must therefore not be exposed to outdoor conditions. In order to obtain the desired properties of WP526, the raw material should be stored below 20 °C and be processed within 1 month.

Processing: Pre expansion with discontinuously operating, state-of-the-art pre expanders WP526 can be pre expanded to densities of approx.25 kg/m³. Lower densities can be achieved by double pre expansion or in optimized machines. WP526 has been treated with an antistatic agent to prevent a buildup of electro-static charge during transport.

Intermediate aging: Intermediate aging should be between 10 and 48 hours.

Moulding: WP526 can be processed in industry standard molding machines within a relatively wide range of steaming settings. If a regenerative agent is added care has to be taken that the density of the regenerative agent equals the pre expansion density as closely as possible to prevent segregation during production.

Food Contact: This grade has food contact approval.

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Typical Properties

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE
BEAD SIZE	MM	SUNPOR 7.2.5 (MIN 90% BY WT)	(0.3-0.5)(>90%wt)
K-VALUE	–	SUNPOR 7.2.4	55
PENTANE CONTENT	WT%	SUNPOR 7.2.2	5.2%
EXPANDED DENSITY	KG/M3	SUNPOR 7.2.6	20
RESIDUAL MONOMER	PPM	SUNPOR 7.2.1	Less than 1000

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