



MENGWEI
ADVANCED MATERIALS

DIVISION 01 / RIGID FOAM PU SYSTEMS

Rigid Foam Polyurethane Systems

COMBINATION SYSTEMS · POLYETHER & POLYESTER POLYOLS · ISOCYANATES

- 01** Rigid Foam PU Systems
- 02** Flexible & Specialty Polyols
- 03** PU Waterproofing & Grouting
- 04** Polyurea Spray Systems
- 05** MS Polymer & Sealants
- 06** PU Additives & Catalysts
- 07** Specialty Surfactants & Industrial Chemicals

Engineered to global specifications. One-stop polyurethane raw materials and systems.

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MENGWEI rigid polyurethane systems deliver low thermal conductivity, high compressive strength and excellent dimensional stability. Formulated combination systems (B-component + matched polymeric MDI) are organised by application: sandwich panel (continuous and discontinuous), home appliance, water heater, block, pipe insulation, pipe support and spray. The range is supported by rigid polyether and polyester base polyols, isocyanates and flame retardants. All HCFC-141b grades have been withdrawn; the range is built on water-blown, hydrocarbon (pentane) and low-GWP LBA (HFO) technologies.

Application-matched

Panel, appliance, water heater, block, pipe and spray: each with its own grade.

141b-free / low-GWP

Water-blown, pentane (HC) and LBA (HFO) systems. HCFC-141b fully withdrawn.

One-stop supply

Polyol blend, isocyanate, flame retardant and additives from a single source.

Rigid Foam Combination Systems

Ready-formulated polyol blends (B-component) matched with MENGWEI polymeric MDI, grouped by application and blowing agent. Specify continuous-line or discontinuous/press panel grades.

HCFC-141b grades have been withdrawn (ozone-depleting, phased out). The range now features water-blown, pentane (HC) and LBA (HFO, low-GWP) systems, alongside HFC-245fa / 365mfc where specified. Panel grades are tuned for a continuous lamination line or a discontinuous press; please state your line type.

Application	Grade	Blowing agent	Mix ratio A:B	Free-rise (kg/m³)	Moulded (kg/m³)	Comp. strength (kPa)	λ mW/(m·K)
Panel (discontinuous)	MENGWEI-PND-101	Water	1 : 1.3-1.6	28-32	≥45	≥140	≤28
Panel (discontinuous)	MENGWEI-PND-102	Pentane	1 : 1.1-1.3	23-26	≥40	≥140	≤24
Panel (discontinuous)	MENGWEI-PND-103	HFC-245fa	1 : 1.1-1.3	25-28	≥40	≥140	≤24
Panel (discontinuous)	MENGWEI-PND-104	HFC-365mfc	1 : 1.1-1.3	25-28	≥40	≥140	≤24
Panel (discontinuous)	MENGWEI-PND-105	LBA (HFO)	1 : 1.1-1.3	25-28	≥40	≥140	≤24



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Application	Grade	Blowing agent	Mix ratio A:B	Free-rise (kg/m ³)	Moulded (kg/m ³)	Comp. strength (kPa)	λ mW/(m·K)
Panel (continuous)	MENGWEI-PNC-101	Water	1 : 1.4-1.6	15-18	≥28	-	-
Panel (continuous) B3	MENGWEI-PNC-102	Pentane	1 : 1.2-1.4	30-35	≥36	≥150	≤22
Panel (continuous) B2/PIR	MENGWEI-PNC-103	Pentane	1 : 1.5-1.7	33-38	≥40	≥150	≤22
Home appliance	MENGWEI-APP-101	Water	1 : 1.3-1.5	28-32	≥45	≥140	≤24
Home appliance	MENGWEI-APP-102	Pentane	1 : 1.1-1.3	24-26	≥40	≥150	19-20
Home appliance	MENGWEI-APP-103	HFC-245fa	1 : 1.1-1.3	22-24	≥38	≥130	18-19
Home appliance	MENGWEI-APP-104	LBA (HFO)	1 : 1.1-1.3	22-24	≥36	≥120	17-18
Water heater / solar	MENGWEI-WHT-101	Pentane	1 : 1.0-1.2	28-32	≥45	≥140	19-20
Water heater / solar	MENGWEI-WHT-102	HFC-245fa	1 : 1.0-1.2	28-30	≥42	≥130	18-19
Block foam	MENGWEI-BLK-101	HFC-245fa	1 : 1.1-1.3	25-30	≥40	≥140	≤22



Rigid Foam Combination Systems

Ready-formulated polyol blends (B-component) matched with MENGWEI polymeric MDI, grouped by application and blowing agent. Specify continuous-line or discontinuous/press panel grades.

Application	Grade	Blowing agent	Mix ratio A:B	Free-rise (kg/m³)	Moulded (kg/m³)	Comp. strength (kPa)	λ mW/(m·K)
Block foam Continuous	MENGWEI-BLK-102	HFC-245fa	1 : 1.4-1.7	38-43	43-47	≥160	≤22
Pipe insulation	MENGWEI-PIP-101	Water	1 : 1.5-1.7	30-35	≥70	≥300	≤28
Pipe insulation	MENGWEI-PIP-102	Pentane	1 : 1.1-1.3	15-30	≥60	≥300	≤28
Pipe support	MENGWEI-SUP-101	Water	1 : 1.0-1.2	60-500	100-500	-	-
Spray (open-cell)	MENGWEI-SPO-101	Water	1 : 1.0	9-10	-	-	-
Spray (closed-cell)	MENGWEI-SPC-101	HFC-245fa	1 : 1.0	28-35	≥38	≥200	≤24
Spray (closed-cell)	MENGWEI-SPC-102	HFC-365mfc	1 : 1.0	28-35	≥38	≥200	≤24
Packaging	MENGWEI-PKG-101	Water	1 : 1.0	9-15	-	-	-
EPS / rock-wool adhesive	MENGWEI-ADH-101	Water	1 : 0.5-1.0	25-50	-	-	-
Wood imitation	MENGWEI-DEC-101	Water	1 : 1.0-1.2	-	≥60	≥100	-



Rigid Polyether Polyols

High-functionality base polyols for rigid systems and refrigeration: sucrose / sorbitol and amine-initiated grades.

Grade	OH value (mg KOH/g)	Viscosity at 25°C (mPa·s)	Characteristics	Typical application
MENGWEI-POL-201	365-395	6 500-11 500	High dimensional stability, fast demould	Refrigerators & freezers
MENGWEI-POL-202	365-395	2 000-3 000	Low viscosity	Conventional rigid foam
MENGWEI-POL-203	385-405	6 000-10 000	General purpose	Conventional rigid foam
MENGWEI-POL-204	410-450	4 000-7 000	General purpose	Conventional rigid foam
MENGWEI-POL-205	430-470	7 000-9 000	General purpose	Conventional rigid foam
MENGWEI-POL-206	440-470	13 500-17 500	High cross-link density	Conventional rigid foam
MENGWEI-POL-207	470-510	30 000-45 000	High functionality (sorbitol)	High-strength rigid foam
MENGWEI-POL-208	735-805	2 000-3 000 (50°C)	Amine-initiated, very high functionality	Rigid co-polyol / cross-linker
MENGWEI-POL-209	420-480	3 000-5 000	Amine-initiated, fast cure	Rigid foam, spray
MENGWEI-POL-210	380-420	8 000-10 000	Amine-initiated, high functionality	Rigid foam, panel

Technical data are typical values for guidance and do not constitute a specification. Grades, properties and availability are subject to change; full technical data sheets are issued per grade on request. Quality benchmarked to leading international specifications, offering better overall value.



Rigid Polyester Polyols

Aromatic / aliphatic polyester polyols for rigid foam: improve flame retardancy, strength and cell structure.

Grade	OH value (mg KOH/g)	Viscosity at 25°C (mPa·s)	Characteristics
MENGWEI-PES-301	315	2 750	Finer foam cells, lower thermal conductivity
MENGWEI-PES-302	240	3 250	Higher strength & dimensional stability, improved flame retardancy
MENGWEI-PES-303	240	11 000	Undiluted high-strength grade, improved flame retardancy
MENGWEI-PES-304	240	3 250	Improved pentane compatibility, finer cells
MENGWEI-PES-305	275	6 500	Improved flame retardancy, lower λ
MENGWEI-PES-306	175	10 000	Improved substrate adhesion & strength

Flame Retardants

Liquid phosphate-ester flame retardants for rigid foam systems.

Grade	Type	P content (%)	Cl content (%)	Notes
MENGWEI-FLR-401	Chlorinated phosphate ester (TCPP type)	9.4	32.5	Low viscosity (~65 mPa·s); general rigid foam flame retardant
MENGWEI-FLR-402	Halogen-free phosphate ester (TEP type)	17	-	Low viscosity; halogen-free, also a reactive diluent



Isocyanates

Matched isocyanates: TDI, polymeric MDI, pure and liquid MDI, and IPDI.

Grade	Type	NCO (%)	Viscosity at 25°C (mPa·s)	Application
MENGWEI-ISO-501	TDI 80/20	48.2	3.2	Flexible foam (Div. 02), elastomers, coatings
MENGWEI-ISO-502	TDI 100	48.2	3.2	Flexible foam, elastomers
MENGWEI-ISO-503	Polymeric MDI (low functionality)	30-32	100-300	Rigid / semi-rigid / HR foam, adhesives
MENGWEI-ISO-504	Polymeric MDI (high functionality)	30-32	350-700	Rigid & PIR foam systems
MENGWEI-ISO-505	Polymeric MDI (high-F, for flame-retardant PIR)	≥29	480-640	High-flame-retardancy continuous PIR panel
MENGWEI-ISO-506	Pure MDI (4,4'-MDI)	33.5	-	TPU/CPU, sole, self-skinning, elastomers (mp ≤15°C)
MENGWEI-ISO-507	Pure MDI (flake)	33.5	-	TPU, elastomers, sole (mp 38-39°C)
MENGWEI-ISO-508	Modified liquid MDI	26	200	High-/slow-rebound elastomers, adhesives
MENGWEI-ISO-509	Modified liquid MDI	29-30	25-50	Elastomers, adhesives, coatings
MENGWEI-ISO-510	IPDI	37.5	10	Non-yellowing PU resins, coatings, elastomers

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