Rockwool Sandwich Panels

OMEGA STEEL CO.
Istanbul · Dilovası plant

Rockwool sandwich panels have a core of stone-wool lamellas, 100–120 kg/m³, cut and glued with the fibres perpendicular to the skins: a non-combustible A2-s1,d0 core that gives the panel a fire-resistance rating of EI 30 to EI 120 as a wall, sound insulation of 30–34 dB, and temperature resistance to 250 °C and beyond. It is the panel the fire code, the insurer and the neighbour require — for fire compartment walls, boundary walls, industrial kitchens, energy plants, data centres and public buildings. We make rockwool roof and wall panels in 50–200 mm at Dilovası.

A2-s1,d0 non-combustible | EI 30–120 walls | 100–120 kg/m³ lamella | 50–200 mm | Rw 30–34 dB

When the fire officer asks for a non-combustible envelope or an EI 60 wall between two units, the answer is a rockwool panel. It weighs twice a PIR panel and costs a quarter more, and there is no substitute for it where it is required.

GRADES, STANDARDS AND TOLERANCES

Grade / standard	Yield (MPa)	Note
Stone-wool lamella core, 100–120 kg/m³, λ 0.040	—	A2-s1,d0 to EN 13501-1 (A1 core); EN 13162
Fire resistance (wall, with joint)	EI 30 / 60 / 90 / 120	EN 13501-2 by thickness 50 / 80 / 100 / 150 mm (indicative)
Sound insulation	Rw 30–34 dB	EN ISO 10140
Service temperature (core)	to 250 °C continuous	skins and adhesive limit
Skins DX51D / S250GD + Z140–Z275 + PPGI	≈ 140 / 250	EN 10346 / EN 10169

Fire-resistance classes are for the tested wall system with joints, flashings and fixings — the classification report defines the detailing.

THICKNESS, FIRE RESISTANCE, U-VALUE AND SPAN

Thickness	Fire resistance (wall)	U-value (W/m²K)	Rw (dB)	Weight (kg/m²)	Girt spacing at 0.5 kN/m²
50 mm	EI 30	0.75	30	15.0	2.8 m
80 mm	EI 60	0.48	31	18.3	3.6 m
100 mm	EI 60–90	0.40	32	20.5	4.0 m
120 mm	EI 90–120	0.33	33	22.8	4.4 m
150 mm	EI 120	0.26	33	26.0	4.9 m
200 mm	EI 120+	0.20	34	31.5	5.5 m

Roof panels: 60–150 mm, spans about 20 % shorter than PIR at equal thickness. U-values for the panel field; add thermal bridging at joints for the building calculation.

WHERE ROCKWOOL PANELS ARE REQUIRED

Requirement	Typical source	Rockwool panel solution
Non-combustible envelope (A2)	building codes for public, multi-storey, large buildings	A2-s1,d0 roof and wall panels
Fire compartment wall EI 60–120	fire code, insurer	100–150 mm wall panel with tested joint and flashing
Boundary wall near property line	fire code	EI 60–90 wall panel
Hot processes: foundries, bakeries, kitchens	process temperature, fire	rockwool wall and roof, stainless / hygienic skins
Energy, chemical, oil & gas buildings	plant safety rules	A2 panels throughout
Data centres, archives, server rooms	insurer, client	EI-rated partitions and envelope
Acoustic separation (Rw ≥ 30 dB)	workplace / planning	rockwool wall panel
Escape routes and stair enclosures	fire code	EI 30–60 partitions

SKINS, COATINGS AND COLOURS

Skin	Thickness	Zinc / paint	Where
PPGI PE 25 µm	0.40 / 0.50 / 0.60 mm	Z100–Z140, RAL 9002 / 9010 / 3009 / 7016 …	outer and inner face standard
PPGI SMP / PVDF	0.50 / 0.60 mm	Z140–Z275	coastal, Gulf, colour warranty
Galvanized	0.40 / 0.50 mm	Z140–Z275, unpainted	inner face on a budget
Food-grade PE	0.50 mm	Z140, RAL 9010	food, cold-store interiors
Aluzinc / aluminium	0.50 / 0.60 mm	—	to order

Outer skin profiled (micro-rib, lined or 5-rib roof); inner skin micro-ribbed or flat.

STANDARDS

EN 14509 — self-supporting double-skin metal-faced insulating panels · EN 13501-1 fire classification; EN 13165 (PIR/PUR), EN 13162 (mineral wool), EN 13163 (EPS) cores · EN 10169 / EN 10346 skin steel · EN 10204 3.1