NEUWALL INDUSTRIAL CO., LTD · NeuwallX®

Operable Partition Wall — Model NW840-W

W-Type Super-High Acoustic Operable Wall

Product & Model Specification

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Basis: Factory technical data (2026-10) + project drawings

Reference drawings: ROP Hilton Club Project, dated 2026-10-12 (5 sheets)

This specification describes the **NW840-W** operable partition wall system — the welded steel-frame, super-high variant of the NEUWALL NW840 platform. It is published for project submittal, specification writing (MasterFormat 10 22 26) and client quotation. All dimensions and ratings below are drawn from verified factory data and the referenced contract drawings; values marked **[TBC]** are pending factory confirmation and must be read against the approved shop drawings.

1 · Model Designation & Platform

The NW840 platform covers NEUWALL's centre-pass, single-panel operable walls. Two frame materials define the two members of the family:

Model	Frame	Positioning
NW840	Aluminium (anodised)	Standard-height operable partition, up to 19 ft 8 in (6 000 mm)
NW840-W	2 mm welded galvanised steel	Super-high / tall-opening system, up to 59 ft 0 in (18 000 mm)

On the referenced project drawings the system is labelled *"W-type super high type partition wall"*. **Motorised** and **Ultra-High** are two *configurations* of the same NW840-W platform — one describes the drive/operation tier, the other the height class — and are not separate models. The same steel-frame panel serves both.

2 · System Description

- **Top-hung, no floor track.** Panels are suspended from an overhead track; the finished floor remains uninterrupted (no recessed floor guide).
- **Single-panel construction.** Each panel is a self-contained, steel-framed acoustic unit; the wall is closed by telescoping the lead (closure) panel.

- **Panel set taxonomy.** First-open panel · standard panels · last closure panel · telescopic (lead) panel — plus optional pass doors (single / double leaf, full-height).
- **Stacking.** Retracted panels park in an end pocket, wall stack, or remote storage track at a stacking inclination detailed per layout (75° on P1–P2, 105° on P3–P4 of the reference project).

3 · Technical Data

Panel thickness	92 mm (3-5/8 in) or 100 mm (3-15/16 in)
Maximum height	up to 59 ft 0 in (18 000 mm)
Frame	2 mm welded heavy-duty galvanised steel; roll-formed precise frame-to-frame connection; steel frame warranty 5 years
Acoustic core	80 kg/m³ acoustic rock wool
Facings	12 mm substrate; standard underside 1.2 mm galvanised steel; finishes MDF / steel / fabric / veneer / custom; bare panel field-finishable
Face weight	9.8–10.7 psf (48–52 kg/m²)
Top & bottom seals	Four-finger sweep seals; extension ≤ 50 mm; ≈ 2 kN clamping force per panel
Vertical joints	Single-piece interlocking male/female; three-row rubber (one more contact plane than standard models)
Operation tiers	Manual · Semi-automatic · Fully automatic (jacking + control handle)
Track (super-high)	High-strength steel, roll-formed & painted; self-weight ≈14.1 kg/m; rated line load ≤ 3 000 kg/m (system-dependent); 4 steel wheels per bogie; 2 000 kg per wheel pair; max span 18 m
Track section (drawing)	102 × 76.6 mm (NW-Super High Type track & wheel) [ref. drawings P1–P4]
Durability	SGS-CSTC 40 000-cycle test, all pass (BS 4875-7:2006 L3 / ISO 7170:2005)
Warranty	Panels 2 years · Track, trolleys & steel frame 5 years

4 · Panel Construction

Per the referenced project detail sheets (horizontal section "Super high NW840-W type") and the factory acoustic report, each panel is built as a layered, welded steel cassette:

Layer / Component	Material / Note
Face skins	MDF facings with 1.2 mm galvanised steel backing (MDF · 1.2 mm galvanised steel · MDF sandwich)
Frame	2 mm welded galvanised steel, roll-formed
Acoustic core	Built-in 80 kg/m³ rock wool (sound insulation wool)
Sealing	Retractable aluminium boards, sealing rubber strips, colloidal-particle seal, sealed-aluminium drive retainer, joint drive rod
Mechanism	Telescopic mechanism, operating lever, top frame + rubber strip, bottom frame + bottom pressure bar, strut bar, steel plate
Closure	Wall jamb with plastic clip; last telescopic (lead) sleeve panel

5 · Acoustic Performance

NEUWALL publishes two distinct, non-interchangeable rating families. **Rw** (ISO 717-1) and **STC** (ASTM E90 / ASTM E413) are measured by different laboratories against different standards and are **not converted or compared** across systems.

Rating	Value	Standard / Report
Rw (by construction variant)	**50 / 53 / 55 dB**	ISO 717-1:2013 (factory 2026-10 data table)
STC (100 mm panel)	**55 dB**	ASTM E90-09 / ASTM E413-16 — report **XMIN180500970CCM** (2018-07-04; 100 mm specimen, 52.4 kg/m²; Tsinghua / SGS)

Reporting rule. STC is stated only for the 100 mm panel and only with the ASTM E90 report number above. All other positions state Rw (ISO 717-1). No Rw-to-STC conversion is published. The Rw 55 certificate (HOKLAS report **G21024AC216039(1)**, specimen 100 mm / ≈75 kg/m², Rw 55 with C = –1 dB; Ctr = –5 dB) is available on request; its production-density alignment is finalised with the laboratory.

6 · Fire Performance of Finishes

Fire classifications below belong to three different jurisdictions and **must not be interchanged**. They certify the finish / substrate, not the whole wall assembly.

Element	Classification	Standard	Report
HPL facing	Class 1	BS 476 Part 7 (UK)	SGS AJFS2207005419FF
Vinyl wallcovering	Class A (FSI 10 / SDI 400)	ASTM E84 (US)	SGS AJHL1608008955FB
MDF substrate	B-s1,d0	EN 13501-1 (EU)	SGS AJD201203415

7 · Track & Suspension

The NW840-W uses the **NW-Super High Type track** — a high-strength steel track (≈14.1 kg/m, rated ≤ 3 000 kg/m line load, 4 steel wheels per bogie, 2 000 kg per wheel pair). On the reference project the suspension is carried by a structural steel transfer above the ceiling:

- I-beam + channel steel + M16 screw rods + hanging code (bracket) + rail clip + hexagonal screw; anchor bolts by others.
- Hanger support arrangement: 500 / 750 / 1 000 mm spacing across operating vs. stacking zones.
- Roller (hanger) spacing: 860 mm along the wall; 830 mm in the parking / stacking area.
- Where the clear height is lower (≈5.5 m areas on the project), an aluminium track with Z-brackets and M10 threaded rods to the slab soffit is detailed [ref. drawing sheet 5].

> **Structural interface.** For heights beyond ~6 000 mm the overhead steel support must be engineered to the project's deflection criteria (large-volume spaces can see several-hundred-mm ceiling deflection). Track line-load and support spacing are coordinated from the approved shop drawings — not assumed.

8 · Operation & Stacking

- **Drive tiers:** Manual (handle) · Semi-automatic (powered seal) · Fully automatic (powered traverse). These are three automation levels, not different products.
- **Closure sequence:** operate lever → rotate ≈180° (NW840 manual) / key ≈40 turns extends seals TBC → top & bottom seals extend and clamp (≤50 mm, ≈2 kN).
- **Stacking inclination:** panels park at the angle detailed per layout (75° P1–P2, 105° P3–P4 on the reference project).
- **Installation clearance:** ≥ 762 mm free of obstruction either side of the track centreline (ceiling, floor, wall).

9 · Reference Application — ROP Hilton Club Project

The data in this section is taken directly from the supplied contract drawings (2026-10-12, 5 sheets) and illustrates a typical NW840-W installation. It is project-specific; the general product data in Sections 1–8 governs.

Partition	Panels	Opening ht. / Panel ht.	System	Finish
P1, P2, P3, P4	24 panels each (MB1–MB24), L/R	8 100 / 8 040 mm	Super-high steel track	MDF
P5	10 panels (MB1–MB10), L/R	5 500 / 5 440 mm	Aluminium track (Z-bracket to soffit)	MDF

- Served spaces: Ballroom 1, Ball Room -1, Pre-function 1, Banquet Furnishing Store, Ballroom-to-Arcade.
- Note on the drawings: dimensions are "for reference only, actual measurement shall prevail"; parking room and doors are finished on site.
- Title-block acoustic entry reads **56 dB** — this is the **project-specified** rating written on the contract drawings, not a NEUWALL-certified value. NEUWALL's laboratory-certified maxima are STC 55 (100 mm, ASTM E90) / Rw up to 55 dB (ISO 717-1).

10 · Standards & Nomenclature

- **MasterFormat:** 10 22 26 — Operable Partitions (specification section number).
- **Acoustics:** Rw per BS EN ISO 717-1:2013 (field/lab single-number rating, EU); STC per ASTM E90-09 / ASTM E413-16 (US). Different methods — no conversion.
- **Test reports on file:** XMIN180500970CCM (STC 55) · G21024AC216039(1) (Rw 55) · G21024AC226048 (glass wall) · AJD201203415 / AJFS2207005419FF / AJHL1608008955FB (fire) · SGS 40 000-cycle durability.

11 · Items to Be Confirmed [TBC]

- Exact top/bottom seal retraction travel — construction drawings show ~25 / 38 mm and ~30 mm in different sources; manual states ~48 mm. Awaiting factory harmonisation.
- Rw 55 production-density alignment with HOKLAS report G21024AC216039(1) (specimen ≈75 kg/m² vs. production 48–52 kg/m²).
- Project-specific panel widths and stacking-pocket geometry — per approved layout / shop drawings.

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