

EMS-HP-E24-50

EPDM cooling hose, -24 dash (1-1/2 in bore), 50 m coil

Row and hall main, manifold drop to grid run; composite reinforcement for negative-pressure duty.

Peroxide-cured EPDM hose, -24 dash (1-1/2 in), 38.1 mm bore, supplied in a 50 m coil. Published at 1.38 MPa (200 psi) working pressure against a 600 psi burst (3.0× MAWP (floor)) with a 203.2 mm minimum bend radius. Specified for row and hall mains, where a run bent inside its minimum radius is out of specification at commissioning and collapses under negative pressure at the first flow adjustment.

ORDERING INFORMATION

Part number	EMS-HP-E24-50
Dash size and nominal bore	-24 (1-1/2 in)
Coil length	50 m
Maximum allowable working pressure	1.38 MPa (200 psi)
Minimum burst pressure	600 psi minimum
Burst-to-working ratio	3.0× MAWP (floor)
Reinforcement	Composite reinforcement
Packaging	Coil, bagged and end-capped, with the model code and layline markings on the coil label

DIMENSIONS AND PRESSURE

Parameter	Value	Notes
Dash size and nominal bore	-24 (1-1/2 in)	SAE J20 (201503) dash convention. Nominal bore, not a measured bore.
Internal diameter	38.1 mm	Production tolerance band measured on the delivered coil, not a single nominal figure.
Outside diameter	52.8 mm	Range across the tolerance band; governs ferrule and clamp selection.
Maximum allowable working pressure (MAWP)	1.38 MPa (200 psi)	Published as the rating the hose is built to. Published as the rating the product is built to, not as an approval held. Certification and standard designations are named only; no certificate, registration, patent or file number is published for any model in this cluster.
Minimum burst pressure	600 psi minimum	No tested burst figure is published for this size, so the size is specified at the Open Compute Project floor of at least 3× the maximum allowable working pressure. The tested value is issued with the datasheet rather than estimated here.
Burst-to-working ratio	3.0× MAWP (floor)	3× is the specified floor, not a tested ratio. The measured burst-to-working ratio for the delivered coil is issued with the datasheet.
Proof pressure	300 psi (2.07 MPa)	1.5× MAWP, the conventional piping factor. Hydrostatic proof, air purged first, deionised water or PG25, step-wise ramp with holds to the specification limit.

Parameter	Value	Notes
Minimum bend radius	203.2 mm	Per-size minimum in millimetres. A hose forced below this radius has a shortened service life: the braid kinks and the damage shows at the ferrule later. Routing clearance required equals the minimum bend radius.
Weight per metre	1.31 kg/m	Weight per metre of the finished hose, used for coil handling and for hanger spacing.
Operating temperature range	-40 °C to +99 °C	Grid construction range. A published grid hose sheet also prints -40 °F to +210 °F beside -40 °C to +99 °C; 99 °C is 210 °F, and Celsius is published here.
Coolant temperature at the coupling	60–80 °C nominal	Separate limit from the hose range; set by the elastomer seal in the coupling rather than by the tube compound.
Burst test medium and method	Deionised water or PG25, air purged first	ASTM D1599-18(2024) short-time hydrostatic failure. Purge all air, pressurise, then ramp in steps with holds to rupture or the specification limit.

CONSTRUCTION, MEDIA AND DOCUMENTATION

Parameter	Value	Notes
Tube compound and cure	Peroxide-cured EPDM	Peroxide crosslink carries no sulphur residues. Declared as the supplier position on the compound, with ISO 1817 immersion as the test that settles it: 168 h at 70 °C in PG50, volume swell and mass change reported. A sulphur-cured inner rubber releases precipitates into the coolant and they lodge in cold-plate micro-channels.
Cover compound and flame rating	UL 94 V-0 cover compound	Vertical burn on the outer rubber, IEC 60695 alongside when a fire dossier is requested. The rating applies to the cover compound and not to the finished assembly, and no third-party approval document is in hand for a hose model.
Reinforcement	Composite reinforcement	Two braid layers, or braid plus helix. This is the construction specified for grid mains and for any run that sees negative pressure. Bend radius runs about 4.8–5.3× outside diameter.
Negative-pressure duty	Required	Negative pressure appears during start-stop and flow adjustment. An ordinary braided hose collapses and circulation stops; composite reinforcement is the specification that prevents it.
Compound hardness	60–80 Shore A (EPDM 70 typical)	Hose tube and cover compounds. Tensile strength and elongation by ASTM D412, heat and air ageing by ASTM D573, ozone cracking in a chamber by ASTM D1149-18(2025).
Media	PG25 · PG50 · EG · deionised water · facility water · phosphate-ester fluids	EPDM is a non-polar hydrocarbon elastomer: good in water and glycol, poor in hydrocarbon oils. Chlorinated or ozonated water is a dechlorination and oxidation exposure, which is why an ISO 1817 immersion result carries more weight than a compatibility chart.

Parameter	Value	Notes
Fluid immersion test	168 h at 70 °C in PG50	ISO 1817 immersion with volume swell and mass change reported. No published swell limit exists for a data-centre hose, so no swell limit is published here as our own; a swell limit appears on a model datasheet only when that model's report is in hand.
Coil length	50 m	Order configuration, not a tested property. No published data-centre hose sheet states standard coil lengths, so the length is confirmed on the order drawing.
Storage and shelf life	3 years, bagged, out of sunlight	Elastomer shelf-life reviews find no justification for a shelf life shorter than 3 years. Keep the coil away from electric motors and welding equipment; ozone is deleterious to elastomeric seals, so a storage room should not contain ozone-generating equipment.
Standards applied	SAE J20 (201503) · SAE J1037 · ASTM D412 · ASTM D573 · ASTM D2000 · ISO 1817 · ASTM D1149-18(2025) · ASTM D1599-18(2024)	Standard designations are named. No certificate, registration or file number is published, and no third-party approval is stated or implied for a hose model.
Inspection record	Dimensional check and 1.5× working-pressure proof	One record per coil. The burst ratio for the code is issued with the datasheet.

APPLICATIONS

- Manifold drop from the row main to the rack manifold
- Row-level and hall-level grid main
- Runs that must hold shape under negative pressure
- Long-length working stock held at 20 m and 50 m coils

COMPATIBLE WITH

- EMS-HP-J series pre-assembled jumper bundles for the same dash size
- EMS-HP-FQD and EMS-HP-FBM quick disconnects in the matching size band
- EMS-HP-FBT barbed tail adapters for field-attachable repair
- EPDM 70 Shore A or FKM seals; EPDM for water and glycol, FKM where the fluid or the temperature demands it

INCLUDED WITH THE COIL

- Model code and layline markings on the coil label
- Declaration of conformity to the standards named on this datasheet
- Dimensional check record and 1.5× working-pressure proof record for the coil

MODEL LADDER — EPDM HOSE (GRID CLASS)

Parameter	Value	Notes
-16 (1 in)	EMS-HP-E16-20 · EMS-HP-E16-50	20 m and 50 m coils · 127.0 mm minimum bend radius · 1.38 MPa (200 psi)
-24 (1-1/2 in)	EMS-HP-E24-20 · EMS-HP-E24-50	20 m and 50 m coils · 203.2 mm minimum bend radius · 1.38 MPa (200 psi)
-32 (2 in)	EMS-HP-E32-20 · EMS-HP-E32-50	20 m and 50 m coils · 304.8 mm minimum bend radius · 1.38 MPa (200 psi)

NOTES

- Burst-to-working ratio: every hose and assembly code in this cluster publishes one. Sizes -4 to -6 carry the tested 4.0× figure; sizes with no published burst figure are specified at the Open Compute Project 3× floor and the tested value is issued with the datasheet.
- Coil length is an order configuration, not a tested property. 20 m, 50 m and 100 m are order lengths and are confirmed on the order drawing.
- The peroxide-cured against sulphur-cured distinction is published as a supplier position on the compound, with ISO 1817 fluid immersion named as the test that settles it. No swell limit is published as our own unless the report for the model is in hand.
- Minimum bend radius is a per-size figure in millimetres. A hose forced below it has a shortened service life.
- UL 94 V-0 applies to the cover compound, not to the finished assembly. No third-party approval document is in hand for a hose model, and none is implied.
- Supplied by EMS-Trade Cooling, a Shenzhen trading house that integrates, inspects, stocks and ships. No manufacturing of this item is claimed, and no count of suppliers or production sites is published.

Full specification sheet and current pricing	EMS-HP-E24-50
EMS-Trade Cooling · ems-cool.com	Rev. A
Typical lead time confirmed on order acknowledgement.	2026-09-19