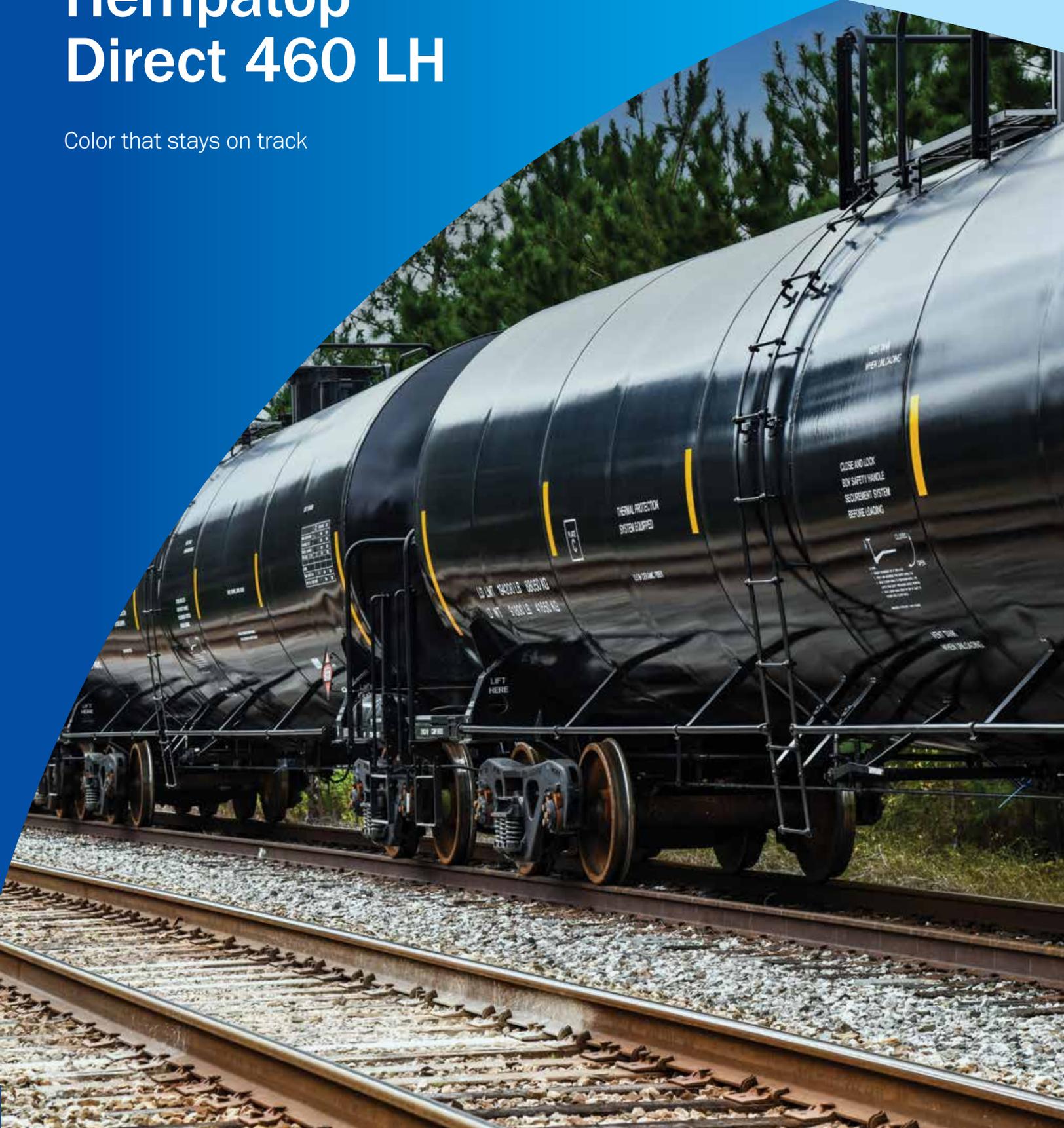


# Hempatop Direct 460 LH

Color that stays on track



# A new generation of protection for railcars

Our railways are a fundamental part of our infrastructure. Moving goods by rail is essential to our economy and growth.

Rail cars traverse North America, working in tough conditions; from the sub-zero temperatures in Alaska to the tropical climate of Mexico. They carry a huge variety of cargoes from hazardous chemicals and gases to food grade products. Protecting these assets from UV exposure, harsh weather and chemical spills requires a special kind of coating.

At Hempel we have vast knowledge and experience in the Rail industry with an extensive track record with some of the world's leading railcar owners and operators. Our innovative coating solutions are proven in the field and supported by our renowned technical service teams.

## Hempatop Direct 460 Low HAPS product profile

Next generation low HAPS high solids, two-component, polyamide cured epoxy coating

Colors/shade nos	Black/1999H, Standard Grey/1770H, Light Grey/1115H, White/1000H
VOC	1.53 lbs/US gallon [200 g/L]
Volume solids, %	78 ± 2
Mixing ratio	1:1
Coverage	312.8 sq ft/US gal (7.8 m <sup>2</sup> /liter)
Dry to touch	2.5 hours at 68°F/20°C
Dry through	5 hours at 68°F/20°C

# Resilient good looks

Meeting our customers' demands for ever more robust coatings, we have developed high performance Hempatop Direct 460 LH.

This advanced formula uses the very latest coating technology and uniquely, chalks to original coating color, keeping your railcar assets looking their best for longer.



Gloss comparison at 542 QUV hours



Hempatop Direct 460 LH



Competitor

## The results

A resilient, high gloss coating that gives you the best performance in the most challenging conditions with an enhanced appearance that is proven to last.

Internal test	Result
Adhesion	Avg: 2105 PSI / 14.51 MPa ASTM D4541 or 3359 - 5B
Flexibility	No cracking after bending over a 3,2mm fixed radius mandrel giving a flexure strain (elongation) of approximately 28,0%
Corrosion resistance	No blisters Exposure: 2056 hours Rust creep from scribe of less than 4mm
Solvent resistance (ASTM D5402)	Resistant to MEK more than 200 double rubs
Taber abrasion	500 cycles - 0.0501g 1000 cycles - 0.0871g
Impact:	Direct: 100 in-lbs Reverse: 60 in-lbs

## Applies with ease

Drying to a high-gloss finish, Hempatop Direct 460 LH is engineered for use direct-to-metal. For interior use on box cars and exterior use on box, tank and hopper cars.

With improved application properties at higher DFTs, with reduced sagging, it is easy to apply and dries to a smooth finish. With faster drying times it speeds the production process and boosts productivity.

Owners and applicators alike realize genuine efficiencies with tangible benefits in time savings.

**Ask your Hempel representative for more information today.**

As a world-leading supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the decorative, marine, infrastructure and energy industries. Hempel factories, R&D centers and stock points are established in every region.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colorful. Hempel was founded in Copenhagen, Denmark in 1915. It is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific purposes around the world.

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