



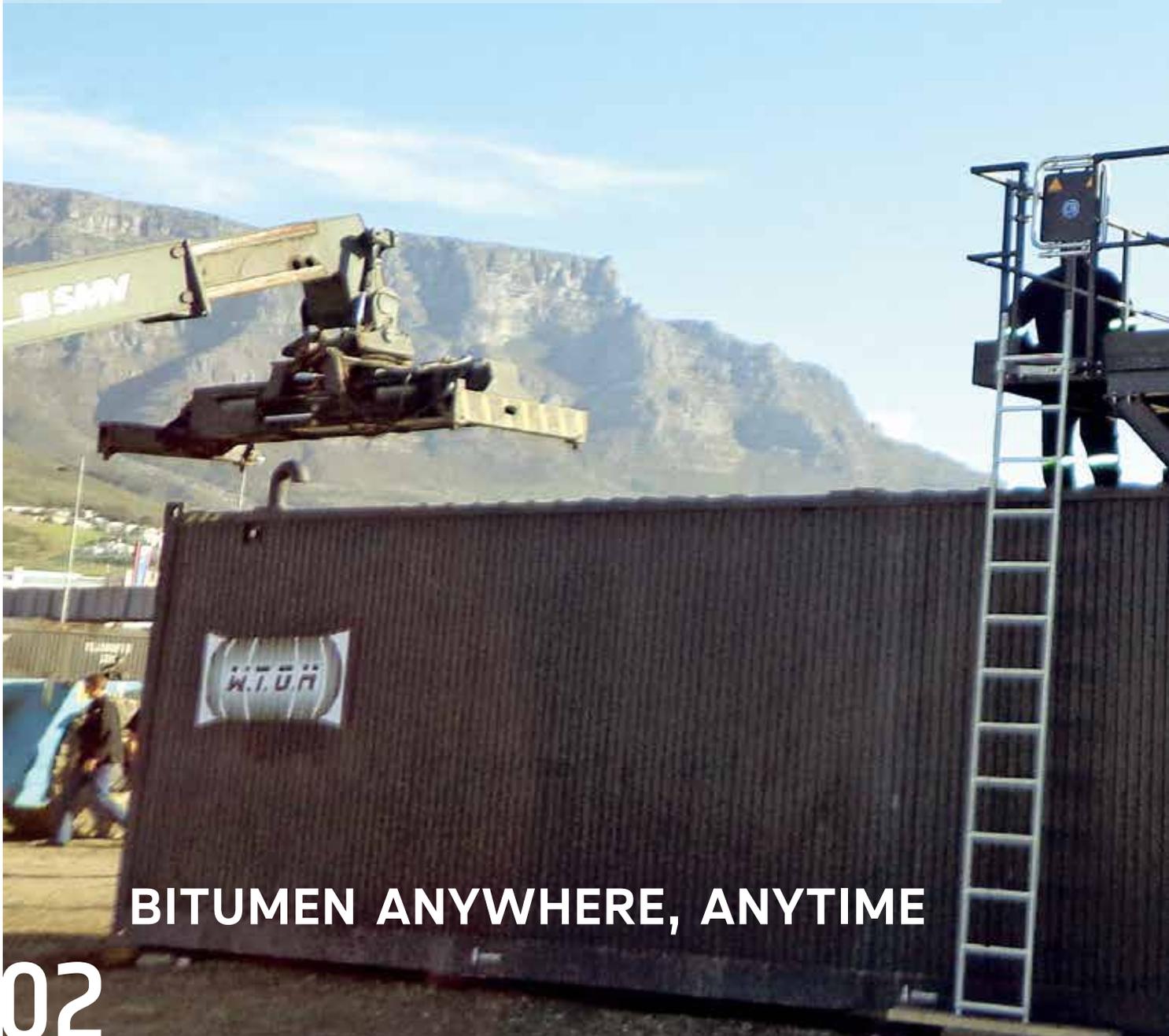
PÖRNER BITUMEN PACKING SYSTEM
Bitumen, anywhere anytime

PÖRNER BITUMEN PACKING SYSTEM

The Pörner Bitumen Packing System was developed to provide an economically global supply of high-quality bitumen. The system minimizes the costs of transporting bitumen. No heated transport such as ships, trucks or storage containers are needed anymore.

This is especially beneficial for:

- countries without any own bitumen production
- regions with difficult logistical conditions
- areas with undeveloped infrastructure



BITUMEN ANYWHERE, ANYTIME

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PÖRNER BITUMEN PACKING SYSTEM



HOW IT WORKS

PÖRNER COLD BITUMEN LOGISTICS

To transport bitumen anywhere, a reliable and efficient logistic system is needed – using the fewest special infrastructures, lowest possible total energy consumption, as well as safe and easy storage and handling. For this purpose the Pörner Bitumen Packing System and the Pörner Bitumen Bag™ were created.

Pörner has been a leading provider of bitumen technology for over 40 years. The Biturox® bitumen plants, licensed by us worldwide, cover about 12% of the global bitumen production capacity. It is Pörner's key focus to make bitumen available to all who need it - including countries with no refineries of their own or with difficult logistical conditions.

FOR THE PRODUCERS

Bitumen Cooling and Packing Unit at LUKOIL Refinery, Russia



It allows the producer to produce, pack, store, transport and sell bitumen independent of seasonal demand, fluctuation or logistical issues.

FOR THE END-USERS

Bitumen Bags at a Hot Mix Asphalt Plant, Cap Verde



It enables the producer to store and use bitumen at any time, cost-effectively and in any quantity that will meet your requirements.



SYSTEM ELEMENTS

1. COOLING & PACKING UNIT



The Cooling & Packing Unit (CPU) cools the bitumen down to the packing temperature.

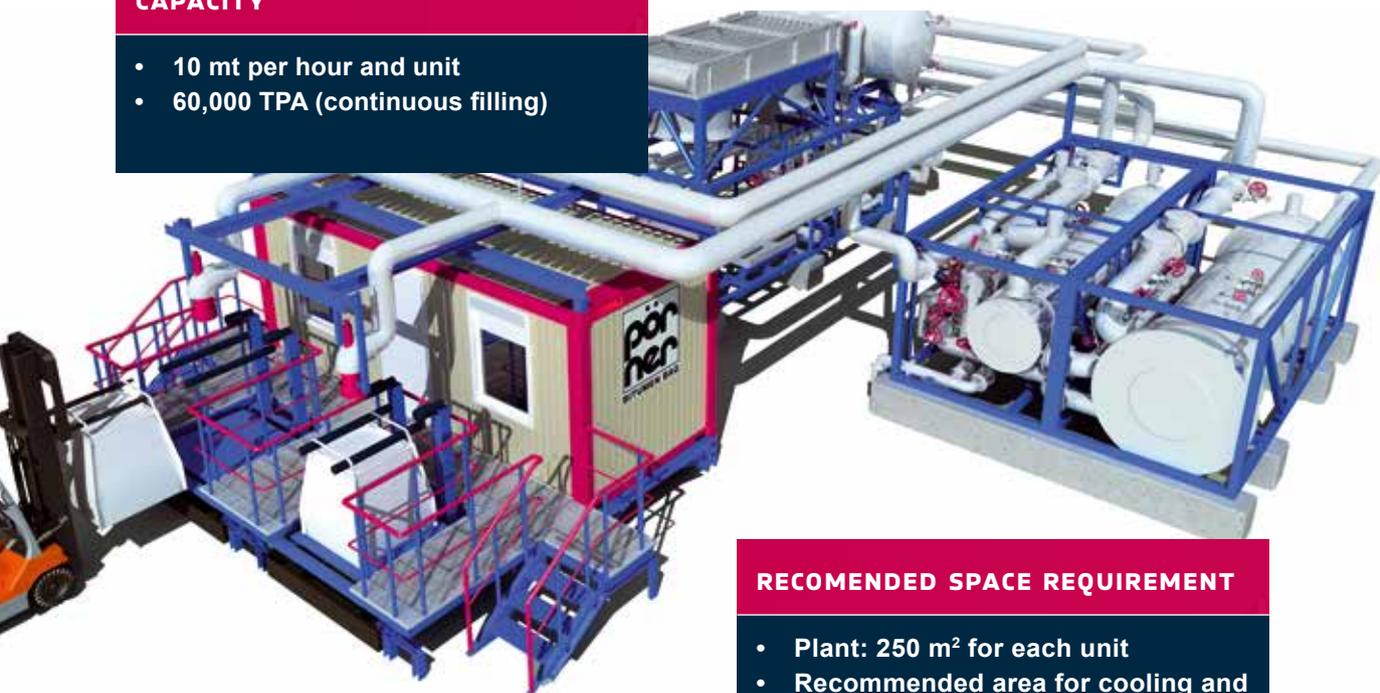
The process ensures a stable filling temperature and is designed for the safe, continuous filling of the Pörner Bitumen Bags™ with paving bitumen.

An electronic control system provides for the exact weighing and the complete monitoring and registration of the product as well as the weight of each individual bag.

BITUMENA - Cooling and Packing Unit, Bahrain

CAPACITY

- 10 mt per hour and unit
- 60,000 TPA (continuous filling)



RECOMENDED SPACE REQUIREMENT

- Plant: 250 m² for each unit
- Recommended area for cooling and storage: min. 3,000 m² for each unit

SYSTEM ELEMENTS

2. PÖRNER BITUMEN BAG™

The innovative Pörner Bitumen Bag™ has been developed and patented by Pörner.

The bag is designed as a self-stabilizing container provided with an overfilling buffer to substitute bitumen thermal shrinking. The bag materials include UV additives for extended life-time.

The bags are stackable in two layers for ISO container transport and can be transported by any common transport system (truck, standard container, rail, ship).

Bitumen Bags storage, Bahrain



B-TYPE

- Conical shape
- Economical design
- Capacity - 1,000 kg
- Max. load - 20 mt per 20 ft. ISO container



B-Type Bag

P-TYPE

- Cubical shape
- Metal frame to improve stabilization
- Capacity up to 1,300 kg
- Max. load - 23 mt per 20 ft. ISO container



P-Type Bag

The bags consists of:

- an **outer carrier bag** made of flexible fabric
- an **inner bottle-shaped liner** made of special purpose film
- a **siliconized thermal liner** as an option for polymer modified bitumen (PBM) packing



3. PÖRNER BITUMEN MELTERS

The Pörner Bitumen Melters are designed for melting/heating large volumes of solid bitumen packed in flexible bags.

The melters are preferentially equipped with direct fire / hot air or thermal oil heating systems. They are delivered as pre-fabricated units, equipped with loading hopper, heating grid, melting tank, discharge and re-circulating system and lifting / working structures, in accordance with the type of melter.

The re-liquefied bitumen is heated to the required temperature in a collecting tank and can be loaded on a road tanker or used directly at a hot mix asphalt plant.



High-Performance Melter - Melting Site / South Africa

BITUMEN STANDARD MELTER

The melter consists of an insulated steel tank body with internal heating coils for bitumen melting.

Capacity:

- Up to 4 TPH depending on ambient temperature
- Batch operation

Area:

- Melter: 25 m² / unit
- Bag storage: 1.5 m² / bag



Bitumen Standard Melter

HIGH-PERFORMANCE MELTER

Developed and patented by Pörner, it is a "solid-to-liquid" exchanger consisting of triangular heating elements to liquefy high volumes of cold bitumen.

Capacity:

- Up to 6 TPH depending on ambient temperature
- Continuous operation

Area:

- Melter: 50 m² / unit
- Bag storage: 1.5 m² / bag



High-Performance Melter

EFFICIENT, POWERFUL AND MOBILE

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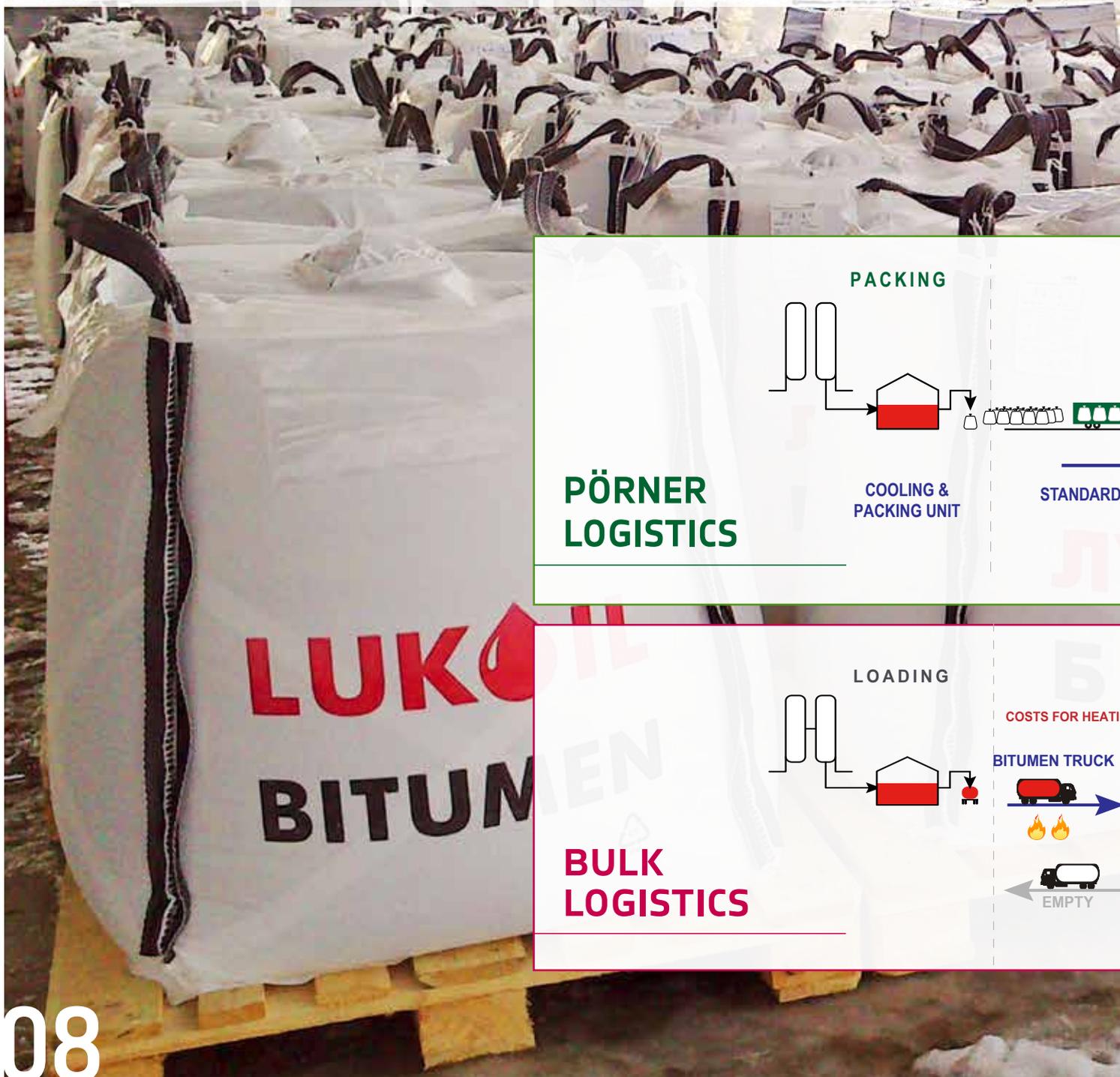
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COLD BITUMEN LOGISTICS

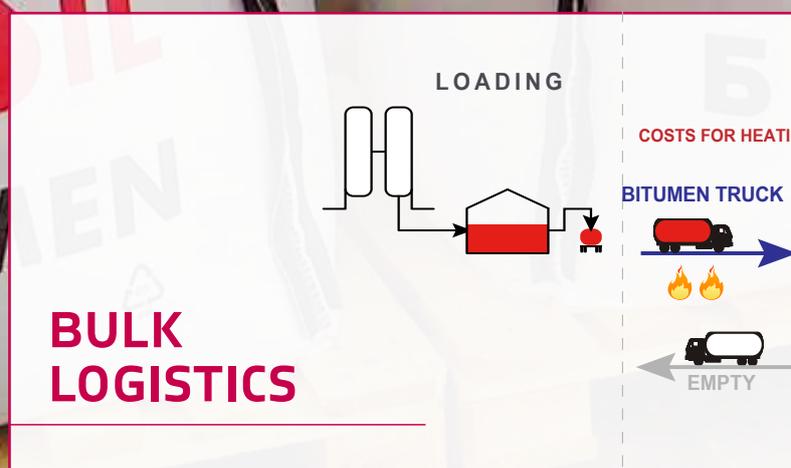
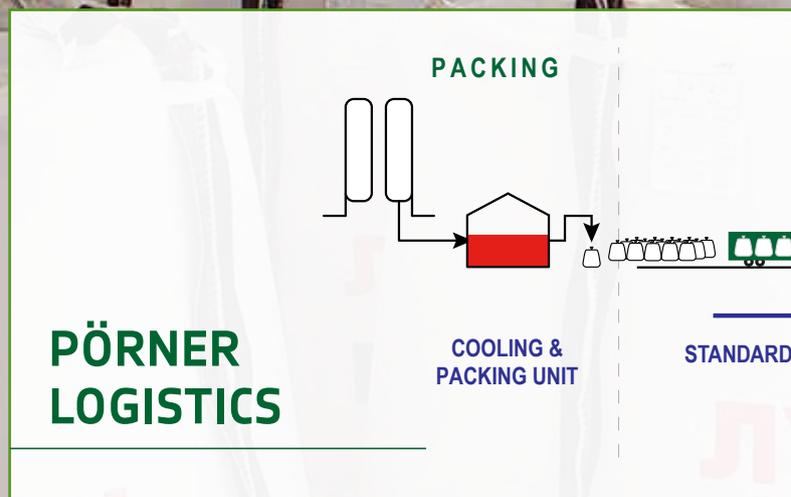
The Pörner Bitumen Packing System was developed to supply large volumes of bitumen economically. Since 2004 the system has been continuously developed to meet all the requirements along the complete supply chain from filling to storage over intercontinental transport to application on site.

The design of the Pörner Bitumen Bag™ is characterized by high stability, greater volume and good weather resistance. Leading industrial partners produce these standardized bags with a constant high level of quality.

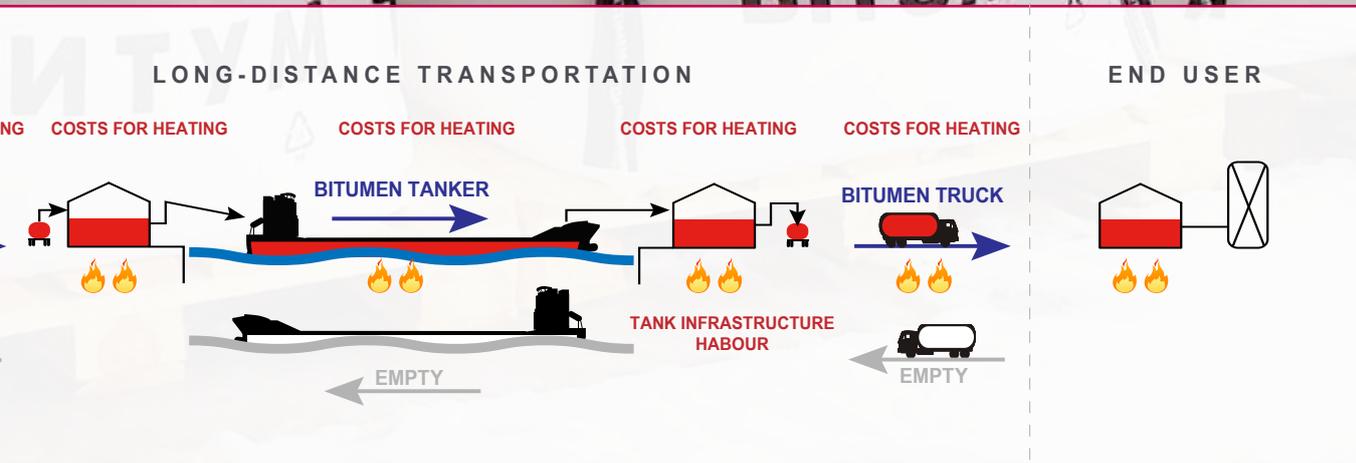
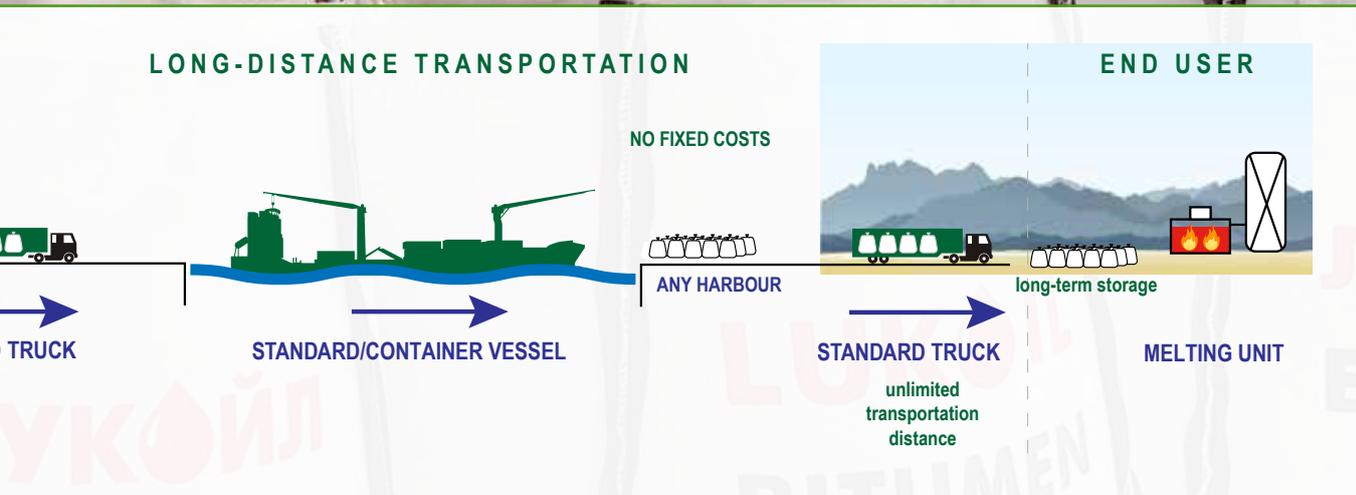
Therefore, bitumen in cold condition can be transported by conventional trucks or sea containers over distances of many thousand miles from continent to continent.



Bitumen Bag storage place at LUKOIL Refinery, Russia



	Bulk	Bitumen Container	Drums	Pörner Bitumen Bag™
Transport volume	2,500 – 10,000mt	25mt	1 drum = 150-220kg	over 1,000 kg
Availability	special port facilities are necessary	available in limited number, high rental costs	local fabrication from special sheet metal, needs space	available in containers of up to 3,000 folded empty bags
Transport	double freight charges (empty return)	double freight charges (empty return)	single freight charges	single freight charges
Energy required	permanent heating	melting	melting	melting heat recovery
Storage	-	unprofitable	no additional costs	no additional costs

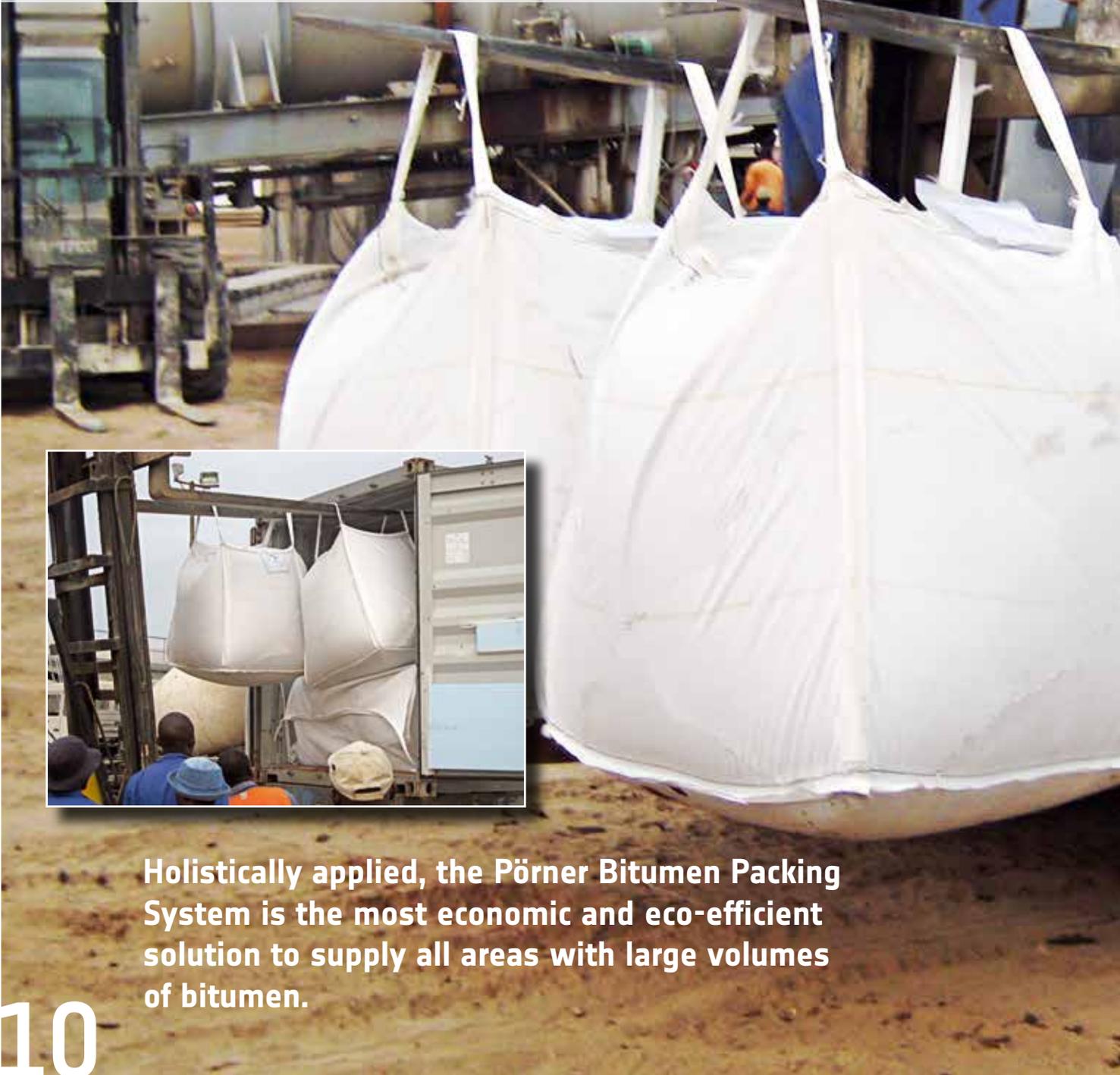


THE MISSION

It is Pörner's mission to provide solutions for high-quality bitumen efficiently and to make it available to any demander worldwide at reasonable costs.

The integrated Pörner Bitumen Packing System for cold bitumen logistics is a major element enabling us to realise this vision.

More than ten years of research and development has resulted in an integrated and ripened solution, always a step ahead of all competitors.

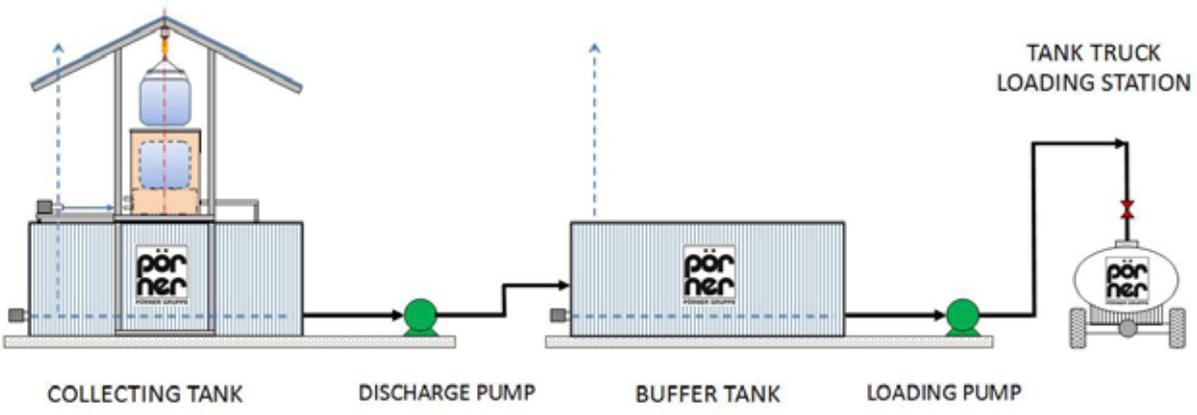


Unloading of Bitumen Bags at a Hot Mix Asphalt Plant, Congo

Holistically applied, the Pörner Bitumen Packing System is the most economic and eco-efficient solution to supply all areas with large volumes of bitumen.



HIGH PERFORMANCE MELTER



BITUMEN - WHENEVER IT IS NEEDED

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ADVANTAGES FOR BITUMEN PRODUCERS

Lukoil Refinery - Cooling and Packing Unit, Russia



ACHIEVING HIGHER MARGIN

- Expansion of bitumen sales possibilities
- Bitumen can be produced in low demand seasons cheaper and stored until demand increases
- Bags are cheaper and have at least four times the capacity of conventional drums
- Substantial energy savings - no heating during storage
- Allows long-term storage without any energy consumption

PÖRNER SUPPLY

- The Cooling & Packing Unit comes in prefabricated modules and includes all necessary infrastructures
- The packing material (Pörner Bitumen Bag™) is supplied by Pörner in cooperation with leading manufacturers certified by Pörner.

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ADVANTAGES FOR END-USERS



Bitumen Bags storage at a Hot Mix Asphalt Plant, Equatorial Guinea

TOTAL FLEXIBILITY FOR THE BITUMEN OPERATION

- Availability of bitumen at the site to be used whenever it is needed
- Independence of seasonal fluctuations of supply and/or demand
- Every conventional means of transport can be used (standard trucks, shipping containers, train, ship) for regional or international transport
- Independent of hot bitumen sources
- Allows long-term storage without any energy consumption

PÖRNER SUPPLY

- The Pörner Melter comes as pre-fabricated unit and optionally includes all infrastructures
- The Pörner Melter can be installed in 1-10 days at site and can be relocated, if needed
- The HP-Melter is provided with heat-recovery to save fuel cost
- Large daile quantities can be supplied by Pörner Bitumen network partners

SELECTED REFERENCES

PÖRNER – THE BITUMEN SPECIALIST

As licensor and contractor of over 55 Biturox® bitumen production plants and bitumen filling systems for truck, rail, metal and plastic containers, Pörner is the leading technology provider for the production and handling of quality bitumen.

The Bitumen Packing System was invented by Andreas Pörner and since 2005, has been constantly refined to become a flexible, cost-effective and eco-friendly transport system used by leading industrial partners.

Pörner thus contributes to larger production quantities of bitumen as well as improved methods to make bitumen available to users wherever they are located in the world.



Pörner Biturox® Bitumen Plant, Baku / Azerbaijan (2019)

REFERENCES – PÖRNER BITUMEN MELTERS



HIGH-PERFORMANCE MELTER TERMINAL

Client: Mena Energy DMCC
Location: BITUMENA, Cape Town, Rep. of South Africa
Commissioning: 2014



BITUMEN MELTER TERMINAL

Client: Empresa Constructora Incico Ltda.
Location: Santa Cruz, Bolivia
Commissioning: 2017

REFERENCES – COOLING & PACKING UNITS



COOLING & PACKING UNIT

Client: OOO Lukoil-Nizhnegorodnefteorgsintez
Location: Kstovo, Nizhny Novgorod Oblast, Russia
Commissioning: 2013



COOLING & PACKING UNIT

Client: Mena Energy DMCC
Location: BITUMENA, Khalifa Bin Salman Port, Bahrain
Commissioning: 2012



COOLING & PACKING UNIT

Client: Raffinerija Nafte a. d. Brod
Location: Brod, Bosnia & Herzegovina
Commissioning: 2012



COOLING & PACKING UNIT

Client: JP Iran
Location: Isfahan, Iran
Commissioning: 2010

WITH PÖRNER THE WORLD OF BITUMEN IS YOURS

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