

ARC-2400[®]

RETEXTURING & ROAD LINE REMOVAL TRUCK

ENGLISH | 09-2013



AVERAGE CLEANING RESULTS

Retexturing of asphalt
or concrete surfaces
(increasing friction value)

Ø 3,000 m²/h

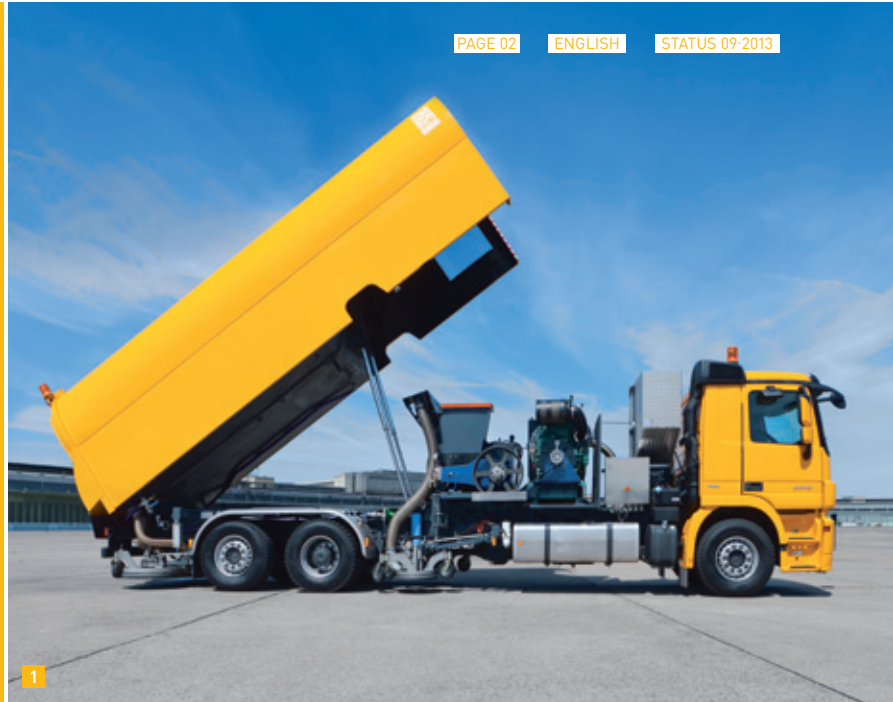
Cleaning of surfaces
(e.g. drain-asphalt)

Ø 10,000 m²/h

1 The tank and sound hood can be tilted hydraulically for maintenance purposes and for emptying the waste water tank. This allows easy access to all components – high pressure pump, boost pump, fan, cooler, extractor and auxiliary engine.

2 Retexturing of road surfaces with pressure up to 2,500 bar and a working width of up to 2,400 mm

3 Complete removal of all kind of materials, even hardest and thickest road markings, with an average performance of more than 2,200 m/h.



ARC-2400®

RETEXTURING & ROAD LINE REMOVAL TRUCK

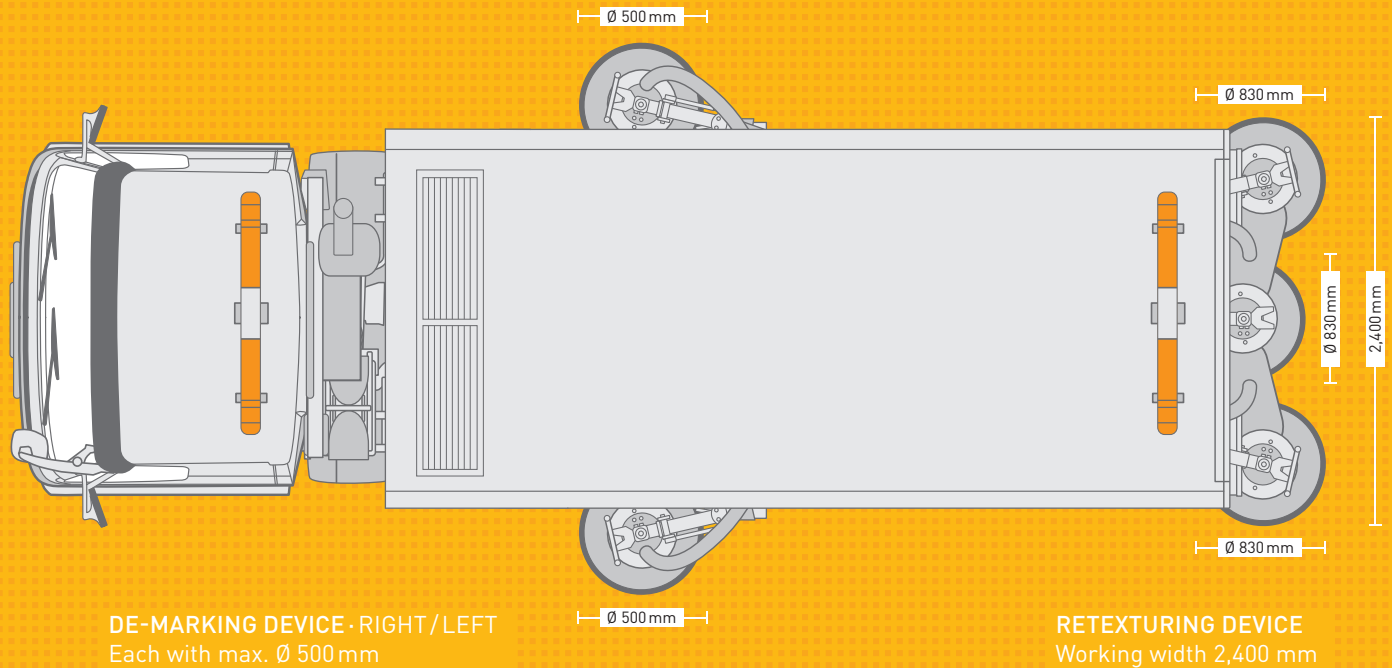
The German company SMETS-Technology GmbH designed and built with partners this high performance vehicle for professional surface treatment and line/mark removal.

The **ARC-2400®** can be used professionally for three main applications:

- 1. Retexturing (roughening) of too smooth road surfaces**
- 2. De-marking of traffic lines (all kind of materials) – on the left and the right side of the vehicle**
- 3. Rubber removal on runways**

All deposits and dirt on the treated surface are removed by using ultra-high pressure water and are entirely withdrawn by suction. An auxiliary engine is driving a strong and powerful high pressure pump (250 kW) whereas all other aggregates are hydraulically driven. The additional required power is taken from two sources: First, via a PTO from the truck's engine and second, via a hydrostatic gear, which is built into the drive shaft.

The 2,400 mm surface cleaner, which is located at the rear of the vehicle, can be lifted up within 3 seconds by means of pneumatic cylinders.



TECHNICAL DATA

→ CONTROLS AND SETTINGS FROM DRIVER'S CABIN

- Monitor for 3 cameras mounted behind the surface cleaner at the rear side and 2 behind the de-marking device on each side of the vehicle
- RPM counter on each surface cleaner to show the speed of the nozzle bars
- Pressure gauge for the working pressure
- Joystick for forward and reverse movement
- Potentiometer to set the driving speed during operation
- Setting of the rotation speed of every surface cleaner (rpm)
- Setting of the suction operation (rpm of the blower)
- Setting of the working pressure (1,000 to 2,500 bar)
- Switch for every surface cleaner ON/OFF
- Control for all hydraulic circuits
- Control of all parameters of the auxiliary VOLVO diesel engine
- Pressure gauge for booster pressure
- Control of water temperature
- Control of fresh and waste water level

CHASSIS

Wheelbase 6,000 + 1,350 mm | 6 x 2
Max. technical weight 26 tons

TRUCK'S ENGINE PERFORMANCE

Approx. 267 kW

AUXILIARY ENGINE PERFORMANCE

285 kW

SPEED DURING OPERATION

0.12 to 4.80 km/h

WORKING WIDTH

Rear device 2,400 mm | Side device 500 mm (each side)

WORKING PRESSURE

1,000 to 2,500 bar | stepless regulation

FLOW RATE OF HP PUMP

20 to 45 l/min | stepless regulation

TANK VOLUME

8,000 litres fresh water | 9,000 litres waste water

SUCTION

max. 16,800 m³/h

SPEED OF NOZZLE ARMS

stepless regulation



4

4 De-Marking devices installed on both sides of the vehicle with a working width of 250 – 500 mm each. The working width can be chosen individually.

5 Truck with lowered rear cleaning device (working position) (3 x 830 mm Ø) and one lowered de-marking device (left side).

6 Both de-marking devices in working position. Each device (3 x at the rear and 2 x at both sides) can be activated separately or in combination – the system is able to work on several and different applications.

INNOVATIVE

Latest state of the art technology

ENVIRONMENT-FRIENDLY

No use of chemicals, extreme low water consumption

ECONOMICAL

Prolonging the life time of the runway by 50 %



5

Every surface is faced under heavy traffic load to change the structure of the surface texture gradually. If the measured friction values fall below a certain level described in international or national regulation, it must be restored by either cleaning or retexturing the surface structure.

The ARC-2400® is designed to support these requirements and to restore friction on all kind of surfaces without damaging the texture.

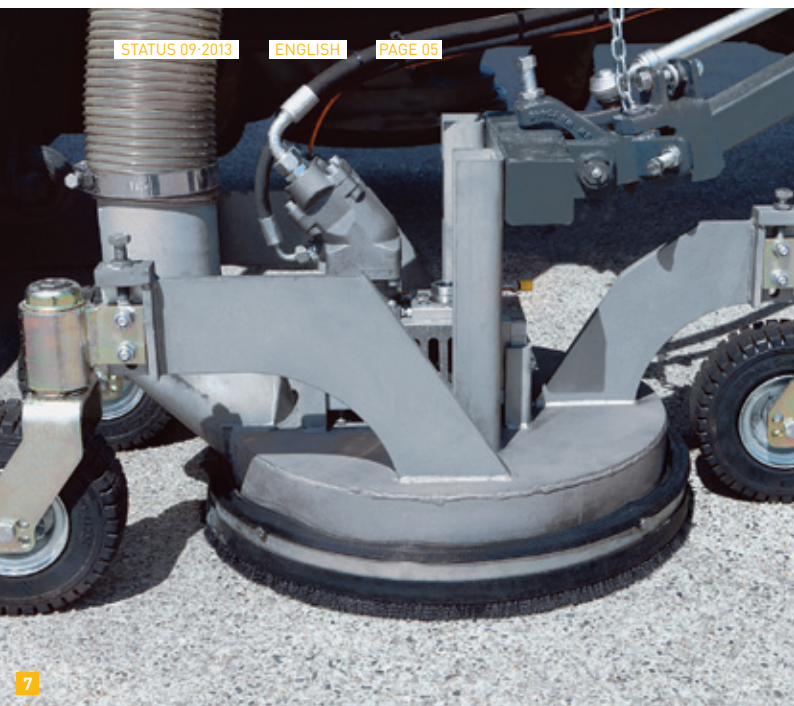
Nowadays it is no longer common to remove paint markings on roads and airport traffic areas by applying grinding technology as they cause damage to the surface structure. The resulting grooves (striation) are dangerous by passing with a vehicle at a certain speed as steering wheel breaks away.

The modern technology using ultra-high water pressure re-establishes good friction to the surface, removes paint markings without damaging the surface, prolongs the life time of the surface texture by 50 % and is environmentally friendly because of the low water consumption used during the process.

The ARC-2400® is designed to support these requirements and to remove all kinds of materials without causing damages to the surface structure.



6



7



10

SAFETY & RELIABILITY



8



9

A Touchdown Zone and other traffic areas become slippery gradually when being exposed to landings of aircraft or heavy traffic, because the rubber – separating from the tires of the landing aircraft fill up the texture of the runway and therefore, reduce the friction values of the surface especially during humidity.

With our developed ultra-high pressure technology and nozzle speeds of more than 400 km/h the system removes rubber and leaves a clean texture without any damage to asphalt, concrete, grooved or covered surfaces but increases friction values.

The ARC-2400® is designed to increase the safety of runways and traffic areas without damaging the texture.

The water level in the fresh water tank is monitored continuously. If the level reaches the lower point the driver/operator is warned visually. Even if the level drops, the system switches automatically to pressureless mode avoiding dry run of the high pressure pump.

7 One de-marking device in working position. The build-in nozzle bar can be equipped with insert nozzles to perform different working widths from 250 up to 500 mm. (depending on width of road line).

8 Colour monitor in driver's cabin allows a constant control and monitoring of the cleaning process during operation by day and night.

9 Central control board provided with colour touch screen for easy operation, control and change of all relevant parameters and settings used within the cleaning process.

10 The nozzle configurations guarantee extreme high nozzle speeds which avoid any damage on the treated surface because it creates the minimum stress of ALL world-wide available systems.

To ensure that the treated surface is not damaged, the high pressure system shuts off the moment the driver steps on the clutch. The system can only be activated when vehicle is actually in motion. Even at full load (2,500 bar and 45l/min at vehicle speed of 4.8 km/h) the water and debris are entirely sucked off the surface and drawn off into waste water tank.

The ARC-2400® proves to be the most environmentally friendly, advanced technology and operationally reliable system on the airport and road cleaning market – offering unbeaten performance and easy maintenance as well as lowest after sales cost per m².

ADDITIONAL OPTIONS

All additional systems can be retrofitted on several of our vehicles and onto the Airport Runway Cleaner ARC-2400®.



A MAGNET SYSTEM

Magnetic device with permanent magnet which is installed under the driver's cabin. The magnet can be lowered into the working position by means of a pneumatic cylinder from the driver's cabin.

B LINE LASER

The line laser is installed at the front of the truck. The clearly visible green line makes it easier for the driver/operator to set the next cleaning trail and therefore, facilitates to avoid curved lines.

C FC12 FILTER CONTAINER

ARC-2400® trucks dump and discharge the wastewater into a filter container. The filter container, type FC 12 was developed and designed to separate the debris from the water (filter mesh size 50 micron). Regarding German regulations the filtered water can be disposed into the public sewer. This allows a clean and environmental-friendly disposal and reduces the dumping time considerably.

COMPANY PROFILE



The owners of the company SMETS-Technology GmbH are very experienced and have been in that field of business since 1975. SMETS-Technology has partnerships in order to build and deliver professional and multipurpose vehicles for a wide range of cleaning applications in municipalities, authorities and in the contracting business (industrial cleaning).

The company attaches great importance to customer support in initial aspects of application technology, right up to the design and layout of specific vehicles required for the job to be done. And of course the service does not end here: Once the vehicle is handed over to the customer he receives professional on-the-job training and can rely on a competent after-sales service.

Long-term customer relations stand as a proof of acceptance of the products and customer satisfaction.

OUR RANGE OF PRODUCTS

- Sewer cleaning trucks (combined vehicles for cleaning and vacuuming, vacuum vehicles, cleaning vehicles)
- Sewer inspection systems and vehicles
- Accessories for sewer cleaning (maintenance and protection systems, hoses and cleaning pumps)
- Nozzles for sewer cleaning and high pressure cleaning
- Garbage trucks & industrial cleaning combination trucks
- Small high pressure cleaning units for sewer pipes with reduced dimensions
- Sweeping trucks
- Tipping container trucks
- Well cleaning and inspection trucks
- Runway cleaning truck **ARC-1000*** with 1,000 mm working width and an average performance of above 1,200 m²/h
- Runway cleaning truck **ARC-2000*** with 2,000 mm working width and an average performance of above 2,400 m²/h
- Trucks for cleaning tanks or any other dangerous substances
- Road marking removal truck **MRT-300/1** with a 13m³ tank (6 water / 7 sludge) = 3.5 – 4 hours continuous operation
- Road marking removal truck **MRT-300/2** with a 7 m³ tank (3 water / 4 sludge)= 2 hours continuous operation
- Friction testing unit

VARIOUS TYPES OF HIGH PRESSURE WATER CLEANING TRUCKS

- Direct drive via cardan shaft of vehicle transmission
- Drive via separate diesel engine
- Equipped with soundproof insulation, water tank, complete workshop



PARTNER NETWORK

Australia · Austria · Brazil · Brunei · CIS Countries · Chile · Egypt · France · Greece
Hong Kong · Hungary · India · Indonesia · Iraq · Ireland · Israel · Italy · Jordan · Kuwait
Lebanon · Libya · Malaysia · Malta · Nepal · Nigeria · Oman · Pakistan · Philippines · Poland
Portugal · PR China · Qatar · Romania · Russia · Saudi Arabia · Serbia · Singapore · South
Africa · South Korea · Spain · Sri Lanka · Syria · Taiwan · Thailand · Turkey · Uganda · United
Arab Emirates · USA · Vietnam

SMETS-TECHNOLOGY GMBH

Airport Tempelhof
Platz der Luftbrücke 4-6
Gebäude D2

12101 Berlin · Germany

PHONE +49 [0]30 - 780 96 49 60
FAX +49 [0]30 - 780 96 49 31

E-MAIL info@smets-technology.com
INTERNET www.smets-technology.com

YOUR RESPONSIBLE REGIONAL REPRESENTATIVE