

I-CAT
DUST SOLUTIONS



www.dust.i-cat.co.za



I-CAT Dust Solutions supplies tailor made dust suppression technologies for both the mining and construction industries. In order to successfully suppress harmful dust emissions generated, I-CAT has developed, manufactured and implemented dust mitigating solutions for haulage roads, in plant areas as well as dormant and active tailing dams.

WE OFFER A COMPLETE DUST MANAGEMENT SOLUTION TO OUR CLIENTS WHICH INCLUDES BUT IS NOT LIMITED TO:

- Primary haulage roads
- Secondary haulage roads
- Tailing facilities dust suppression
- Stockpile dust suppression
- In plant low pressure misting systems
- Waste water evaporation

DUST PRODUCTS



RDC20 is an innovative formulation of blended emulsified co-polymers and ionic modifiers specifically developed for secondary haulage roads.



GreenBit is an emulsified bitumen-based product that was formulated for use on primary haulage roads due to it's stabilizing properties and sealing feature.



TDS2000 is uniquely formulated for I-CAT in order to effectively suppress harmful dust emissions on tailing dams. It is a liquid gel used for the suppression of dust on tailing dams and large open soil areas.



The I-VAP 500 is capable of handling 500m³ per twelve hour day. The evaporation rate is measured between 60% - 65%, depending on normal ambient weather conditions.



I-CAT offers unique tailor-made solutions for dust suppression of fugitive dust generated at transfer points and crusher plants.



Introducing the retractable stockpile dust ring for effective stockpile dust suppression with easy installation and maintenance

RDC 20™

ROAD DUST CONTROL

"Dust suppression has become a 'must have' rather than a 'nice to have' in order to comply with safety, environmental and occupational guidelines set through new legislation. **RDC20** is an affordable and effective solution to achieve this"

RDC 20 is an effective, low-cost solution for dust suppression.

RDC 20 FOR SECONDARY ROADS:

RDC 20 is an innovative formulation of blended emulsified co-polymers and ionic modifiers. The characteristics of **RDC 20** makes it suitable and effective on most soil types.

RDC 20 consists of all natural ingredients and is biodegradable and environmentally safe. **RDC 20** forms a durable cross linked matrix after it is sprayed onto the road surface. The product binds fine soil particles into larger heavier particles, which are less prone to become airborne.



*Please refer to the product MSDS for further information.



RDC 20 is a water-soluble and easy-to-apply product that improves tyre grip while reducing the need for constant grading and watering of the roads, thereby saving on precious water resources and overall costs.

The cost of **RDC 20** is easily set off against the savings realised in water, diesel, manpower, vehicle servicing intervals, and road maintenance.

GreenBit™

PERMANENT SOLUTION FOR PRIMARY HAULAGE ROADS

GreenBit is a patented natural binding agent combined with an emulsified bituminous product to create a durable gravel road sealant. **GreenBit** offers the perfect solution for road establishment and dust control on primary and secondary haulage roads.

It is an environmentally safer alternative to purely chemical-based products traditionally used on primary and secondary haulage roads on mines and residential areas.

ADVANTAGES:

- Water savings
- Removes the need for constant grading and watering
- Dust-free road surfaces
- Improves grip
- Low road maintenance cost
- Water soluble - easily applied
- Feasible economical alternative to asphalt/tar
- Reduces rolling resistance

GreenBit contains around 70% all-natural binders derived from wood extracts, a by-product of the paper and pulp industry, which has a negative carbon footprint due to carbon sequestration by trees. The balance contains an emulsified bitumen product and natural polymers.

GreenBit has been extensively tested and used on both public, agricultural and mine haulage roads. It produces a stable wearing course with a smooth and durable surface. **GreenBit** is a water-soluble and easy-to-apply product that improves tyre grip whilst reducing the need for constant grading and watering of the roads, thereby saving on precious water resources and overall costs.



BEFORE



AFTER



*Please refer to the product MSDS for further information.

TDS 2000 is a unique, polymer based product that is used for dust suppression on tailings storage facilities and large open soil areas.

TDS 2000

- Effectively binds fine materials on tailings storage facilities to manage harmful dust emissions.
- Is an acrylic co-polymer combined with environmentally friendly binding agents.
- Is easily applied by using spray-on application methods.
- Penetrates the soil and forms a porous, durable crust prolonging its lifespan.

TDS 2000 is ideally suited for the following:

- Open soil areas
- Tailings storage facilities including slopes and sidewalls
- Fly ash dumps
- Berms and road barriers
- Waste rock dumps

ADVANTAGES

- Assists in Erosion Control.
- Minimizes Sedimentation.
- Minimizes Dust Pollution.
- Mitigates Health and Environmental Risks and Impacts.
- Aids in Aspect Stability and Structural Integrity.

GENERAL SPECIFICATION:

- Product ratio is dependent on material and climate of area to be treated.
- Product lifespan is determined by frequency of application and soil type.
- Product can be supplied as per client specification.
- Wind break netting is installed in a zig-zag formation to increase the effectiveness of the product.



*Please refer to the product MSDS for further information.

R-SDR

RETRACTABLE STOCKPILE DUST RING

INTRODUCING OUR PATENTED RETRACTABLE STOCKPILE DUST RING FOR EFFECTIVE STOCKPILE DUST SUPPRESSION THAT IS EASILY INSTALLED AND MAINTAINED

Introduced to address dust issues at conveyor discharge points. The **R-SDR** system creates a virtual curtain around material flow for effective particle containment. Engineered to industrial standards and specifications and longevity. The **R-SDR** surrounds the discharge flow on all sides, providing a simple, focused dust management solution.

Variable design configuration allows nozzles to be added, removed or replaced with different sizes to suit specific applications.



SYSTEM OFF

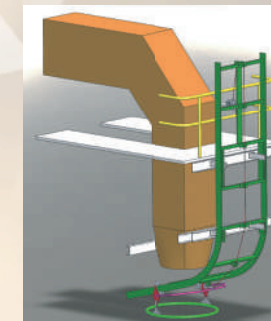
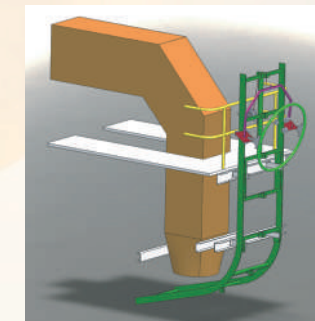


SYSTEM ON



ADVANTAGES:

- Simple, focused dust control
- Continuous duty on radial stacker
- Variable design configuration options
- Variable Particle Sizing (VPS) Technology
- An intrinsically safe, mounted option
- Fully retractable design configuration for ease of access, installation and nozzle maintenance
- Low water usage
- PLC controlled





I-VAP 500 SPEC SHEET

WATER SPECIFICATIONS:

- Maximum pressure delivered by pump is 10 bar (145 PSI)
- Strainer is included and should be used at all times. Contact us for recommendations when using nonpotable water
- 1½" (40 mm) cam-and-groove quick disconnect female coupling for high pressure hose provided on machine
- 38 x PVC nozzles (also available in stainless, brass and nylon)
- 21,3 L per minute, per nozzle, measured at 10 bar pressure
- Droplet size of 150 – 180 microns
- Throw distance of 80 to 110 meters



ELECTRICAL SPECIFICATIONS:

- 3 Phase / 37 kW fan / 525 Volt / 60 Hertz
- 3 Phase / 55 kW pump / 525 Volt / 60 Hertz
- 0.10 kW oscillator motor with oscillation option
- 30 meters 50 mm electrical cord. Other options available
- No male plug, "bare wired" is standard (any other plug is optional extra)
- Stainless Steel Cabinet with control panel
- Wye-Delta start



Evaporation Canon

The I-VAP 500 is capable of handling 500m³ per twelve hour day. The evaporation rate is measured between 60% - 65% depending on ambient weather conditions.

GENERAL SPECIFICATIONS:

- 32,000 square meters coverage
- Custom automated user-definable oscillation up to 359° option
- Includes integrated turntable bearing that enables user to manually override oscillator and quickly reposition fan barrel
- Adjustable angle of throw (7° to 45° height adjustment)
- Integrated fan and nozzle ring design
- Premium efficiency motor
- Low energy-use to evaporation ratio

NOISE LEVELS

WITHOUT BOOSTER PUMP

- Control Panel Side – 83 dB
- Back Side of Fan – 84 dB
- Opposite side – 83 dB
- Discharge side – 85 dB

DIMENSIONS

ON STANDARD SKID MOUNT

- 2,105 mm Wide
- 2,600 mm Long
- 2,510 mm High/Tall
- 1,480 kg

WARRANTY

Unit is covered by a 3-year or 3,000-hour warranty

MAINTENANCE

- If using potable water, nozzles need to be inspected quarterly
- Fan motor and high-pressure pump should be greased every 1,000 hours
- Oscillator bearing should be greased on a regular maintenance schedule, or as needed

The I-VAP 500 is built from composite materials to prevent rust, making the unit light, durable and mobile



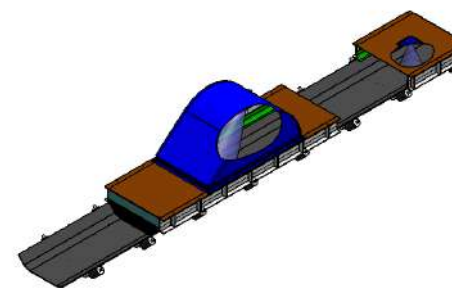
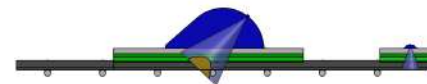
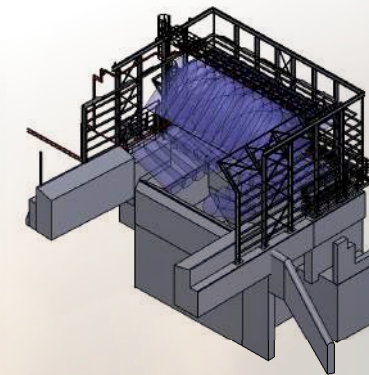
Misting SYSTEMS

LOCALISED DUST SUPPRESSION SYSTEMS:

- Crushers
- Push feeders
- Screens
- Transfer Points: header boxes and discharge
- Stockpiles
- Tipping bins/areas
- Specialised dust suppression systems including full turn-key solutions

ADVANTAGES:

- Easy installation
- Low water usage
- Safety due to low pressure water and/or air
- Maximum effectiveness in agglomeration of dust particles thanks to high level of water dispersion
- Fast and uniform spreading of the water mist inside the chutes and covers
- Choice between manual or automated control panels



LOW PRESSURE LOCALISED DUST SUPPRESSION MISTING SYSTEM

I-CAT offers unique tailor-made solutions for suppression of fugitive dust, generated at transfer points and crusher plants.

The system offers an innovative way to reduce the amount of fugitive dust particles by using highly dispersed water in the form of water mist.

The key element of the system is the patented GTK®, DMK® and FEN® nozzles which generate a high kinetic energy water mist droplet that encapsulates dust particles which prevents them from becoming airborne.

The Dromader® Diffuser system, which consists of a special collector and strategic mounted GTK® and DMK® nozzles, that were designed to maximize dust neutralization efficiency of both hydrophilic and hydrophobic particles.

The special construction of the diffusers improves the effectiveness of the misting system to suppress dust. The system is based on the pressure gradient that moves the dust into the Dromader's patented cavity where the mist nozzles operate. It finally stabilises the dust and places it back on the conveyor. The system converts 95% - 100% of the water into mist that effectively removes the dust.

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