



U n i v e r s a l  
**ICE BLAST** BV  
EUROPE

Presents

**New**

# Ice Blast

A new method of blasting  
using Crystalline Ice



Fraunhofer  
Institut  
Produktionsanlagen und  
Konstruktionstechnik



# Ice Blast

**New**

- **Environmental friendly**
- **Safe**
- **Economical**

[WWW.ICEBLAST.NL](http://WWW.ICEBLAST.NL)



## What is **Ice Blast**?

- **Blasting with ice particles**
- **Using normal tap water**
- **Ice production at run-time**

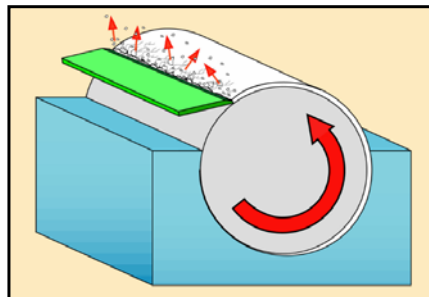


**Ice Blast** is no **Dry-ice**  
or **CO2**



## How does **Ice Blast** work?

The most reliable continuous ice making process is the “immersed rotating cold drum” technology.





# Continuous ice production

capable of running 24 hours

**New**



Ice production  
inside Ice Blast  
machine

Ice Particles  
created by itself

Transport of Ice  
Particles

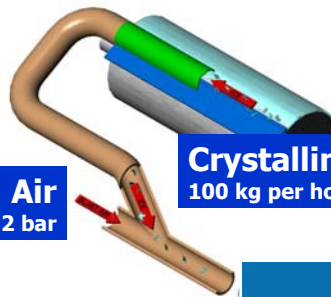


# How does Ice Blast work?

**New**

no mechanical intervention

Compressed Air  
4-12 bar

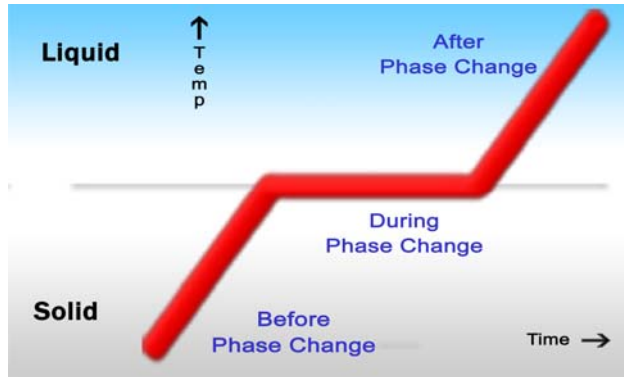


Crystalline Ice  
100 kg per hour

Ice Blast  
Ice Particles with high velocity



# Why using Ice?



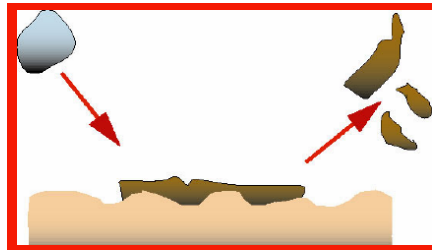
**Ice has characteristics of both solid and liquid media**



## Cleaning Mechanism Before Change



### Displacement Work (Bulk Removal)



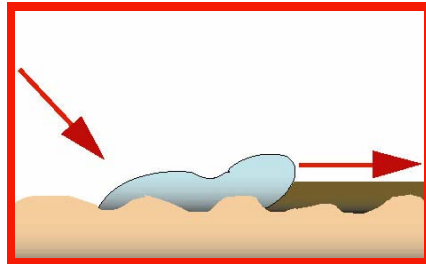
Ice Blast is superior to water blast for displacement work because ice particles provide discrete impacts. Jack hammers work better for digging up tough dirt. Water flows around obstacles.



# Cleaning Mechanism During Change



## Scrubbing Work (Detail Cleaning)



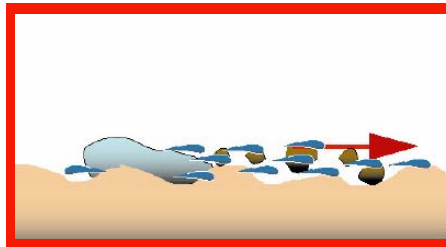
Ice Blast is superior to rotating brushes for scrubbing work because each ice particle acts like a new, clean bristle. Ice particles deform on impact to scrub. Dry ice pellets are not physically stable, therefore do not deform to scrub.



# Cleaning Mechanism After Change



## Rinsing Work (Final Rinse)



Many contamination matters are ionic in nature. Water is a universal solvent for rinsing away ions. In ice blast only a small amount of water is used to rinse away the small amount of ionic contamination.



## Resulting in: **Ice Blast**

**New**



- **Environment friendly**

- Minimal waste
- 30-60 liter per hour
- No chemicals

- **Safe**

- Max. 12 bar pressure
- No chemicals

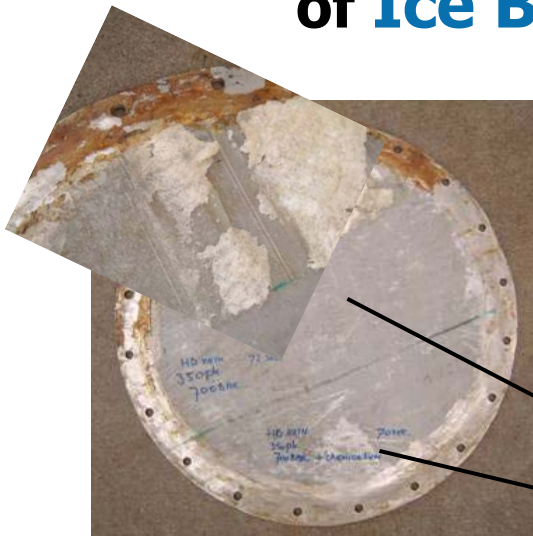
- **Economical**

- Low operational costs
- Less costs for waste
- Running 24 hour
- Blasting during production



## The Cleaning Power of **Ice Blast**

**New**



**Example** (3 area's)

**Man Gate cover**

- pollution: Polymers

- **High Pressure Water** (HPW)

- 350 pk pump
- 700 bar
- More then 1500 liter per hour

**HPW No chemicals**

- 72 seconds

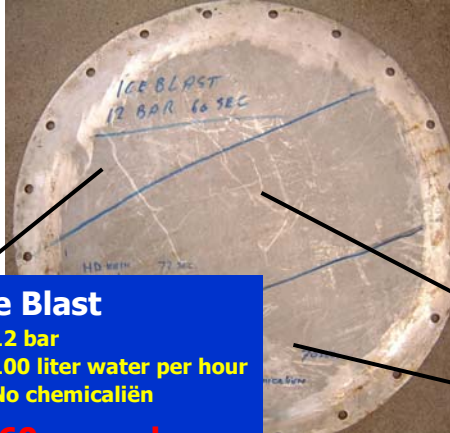
**HPW with chemicals**

- 70 seconds



# The Cleaning Power of Ice Blast

**New**



- **Ice Blast**

- 12 bar
- 100 liter water per hour
- No chemicals
- **60 seconds**

**Example** (3 area's)

**Man Gate cover**

- pollution: Polymers
- **High Pressure Water (HPW)**
  - 350 pk pump
  - 700 bar
  - More than 1500 liter per hour

**HPW No chemicals**

- 72 seconds

**HPW with chemicals**

- 70 seconds



## How does Ice Blast Compare?

**New**





# Ice Blast



- **Environmental friendly**
- **Safe**
- **Economical**

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## **Ice Blast Examples** **Industrial Environments**

[WWW.ICEBLAST.NL](http://WWW.ICEBLAST.NL)



# Ice Blast examples

**Before  
Ice Blast**



**After  
Ice Blast**



**8-10 bar, 60 liter waste water per hour  
no chemicals, no damage**

## **Industrial Environments**

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## **Production Environments**

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## **Environmental Cleaning**

- Removing Asbestos
- Nuclear industry

## **Abrasive Blasting**

- Cleaning molds
- Striping Paint



# Ice Blast examples



**12 bar, 40-60 liter waste per hour  
no chemicals, no damage**

## **Industrial Environments**

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## **Production Environments**

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## **Environmental Cleaning**

- Removing Asbestos
- Nuclear industry

## **Abrasive Blasting**

- Cleaning molds
- Striping Paint



# Ice Blast examples

**Before  
Ice Blast**



**After  
Ice Blast**



**12 bar, 40-60 liter waste water per hour  
2-3 times faster, no chemicals, no damage**

## **Industrial Environments**

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## **Production Environments**

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## **Environmental Cleaning**

- Removing Asbestos
- Nuclear industry

## **Abrasive Blasting**

- Cleaning molds
- Striping Paint

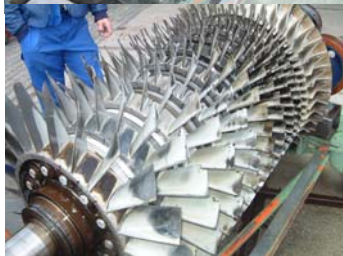


# Ice Blast examples

**Before  
Ice Blast**



**After  
Ice Blast**



**8 bar, 40-60 liter waste water per hour  
On location, no damage, faster**

## **Industrial Environments**

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## **Production Environments**

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## **Environmental Cleaning**

- Removing Asbestos
- Nuclear industry

## **Abrasive Blasting**

- Cleaning molds
- Striping Paint



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# Ice Blast Examples

## Production Environments

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# Ice Blast examples



- Industrial Environments**
  - Fire Damage & Soot
  - Asphalt spil
  - 'Crude Oil'
  - Turbines
- Production Environments**
  - Cleaning plastic parts before painting
  - Degreasing
  - Deburring
- Environmental Cleaning**
  - Removing Asbestos
  - Nuclear industry
- Abrasive Blasting**
  - Cleaning molds
  - Striping Paint

**Low operational costs**  
**High level of cleaning less, no damage**  
**no chemicals, 24 hour operation**



# Ice Blast examples



Low operational costs  
High level of cleaning less, no damage  
no chemicals, 24 hour operation

## Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## Production Environments

- Cleaning plastic parts before painting
- **Degreasing**
- Deburring

## Environmental Cleaning

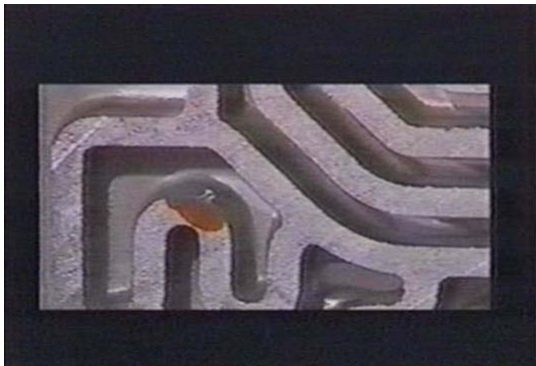
- Removing Asbestos
- Nuclear industry

## Abrasive Blasting

- Cleaning molds
- Striping Paint



# Ice Blast examples



Low operational costs  
removing burr, no damage  
24 hour operation

## Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## Production Environments

- Cleaning plastic parts before painting
- Degreasing
- **Deburring**

## Environmental Cleaning

- Removing Asbestos
- Nuclear industry

## Abrasive Blasting

- Cleaning molds
- Striping Paint



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# Ice Blast Examples

## Environmental Cleaning

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## Ice Blast examples



**10 bar, 60-80 liter waste water per hour**  
Faster, continuous work, more flexibility,  
Safer (less asbestos particles)

### Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

### Production Environments

- Cleaning plastic parts before painting
- Degreasing
- Deburring

### Environmental Cleaning

- Removing Asbestos
- Nuclear industry

### Abrasive Blasting

- Cleaning molds
- Striping Paint



# Ice Blast examples



5-12 bar, 80 liter waste per hour  
No damage, more working hours  
High level of cleaning less

## Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## Production Environments

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## Environmental Cleaning

- Removing Asbestos
- Nuclear industry

## Abrasive Blasting

- Cleaning molds
- Striping Paint



# Ice Blast Examples

## Ice Blast Abrasive on-demand

[WWW.ICEBLAST.NL](http://WWW.ICEBLAST.NL)



# Ice Blast examples

**Before  
Ice Blast**



**After  
Ice Blast**

6 bar, light abrasive media used,  
On location, no damage, faster  
24 hour operation

## Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## Production Environments

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## Environmental Cleaning

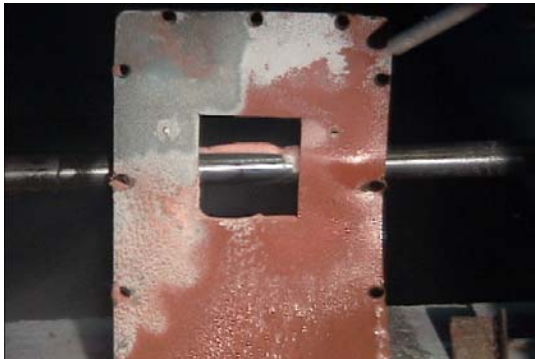
- Removing Asbestos
- Nuclear industry

## Abrasive Blasting

- Cleaning molds
- Striping Paint



# Ice Blast examples



6 Bar , Crystalline Ice with Abrasive media  
No dust, on location  
High level of cleaning less

## Industrial Environments

- Fire Damage & Soot
- Asphalt spil
- 'Crude Oil'
- Turbines

## Production Environments

- Cleaning plastic parts before painting
- Degreasing
- Deburring

## Environmental Cleaning

- Cleaning Asbestos
- Nuclear industry

## Abrasive Blasting

- Cleaning molds
- Striping paint



# Ice Blast



- **Environmental friendly**
- **Safe**
- **Economical**

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# Where to use **Ice Blast**?

Before **Industrial Cleaning - Petrochemical** After



# Where to use **Ice Blast**?

Before **Industrial Cleaning - Petrochemical** After





# Where to use **Ice Blast**?

Before

**Industrial Cleaning – Chemical**

After



# Where to use **Ice Blast**?

Before

**Industrial Cleaning – Chemical**

After





# Where to use **Ice Blast**?

Before **Industrial Cleaning – Water Mgmt** After



# Where to use **Ice Blast**?

**Industrial Cleaning – street, concrete**





# Where to use **Ice Blast**?

Before

**Industrial Cleaning – Turbines**

After

