

ULTIMATE



Shot blasting & degreasing
... in one clean sweep.

Convince yourself. www.pantatec.de

PantaTec
FAST METAL CLEANING SYSTEM

Blasting + Degreasing

grease on it
→ coating
off

Carry-over
oily and greasy
residues
...and
bad consequences

Problem!



Residues of oil based additives and lubricants from upstream manufacturing steps causes significant negative impact on your blasting process and its results, e.g. poor adhesion of anti-corrosion coatings. Therefore it has to be thoroughly cleaned. However, conventional blasting methods cannot remove oils and grease. These greasy residues accumulate in the blasting medium and in the blasting system; even causing carry-over on to previously clean surfaces.

Oily and sticky dust particles cause filters to clog prematurely. The cleaning performance of air separator and dust extraction drops dramatically. Dirt, dust and under size particles are no longer separated out. The blasting medium becomes finer. With increased dust and finest particle content in the operating mix, the system wear increases considerably. Experience has shown that just 2% more dust in the operating mix leads to some 50% more wear. The costs of spare parts are well known.

Abrasive
performance
 $E_{kin} = \frac{1}{2} m v^2$
→ 90% loss

2% more dust
→ 50% more
Wear



Excessive dust and grain sizes smaller than 0.2 mm in the operating mix, e.g. with original S330, 0.8 - 1.25 mm, lead to loss in abrasive performance of up to some 90%. Power consumption is similarly high. The blasting times must be extended. Unit costs increase significantly. Difficult or impossible to maintain the required degree of cleanliness (e.g. SA 2.5) and roughness with any certainty. High risk of fire and explosion due to excess oily blasting dust. The inertising effect of ULTIMATE reduces that risk measurable.



Normal blasting removes only scale, dirt, and oxide or rust layers. PantaTec also deals with oil and grease residues from metallic surfaces, blasting media and blasting equipment. Oils and greases are bound and removed from the process through air separation using dust extraction and filters. The achievable cleanliness is defined, stable and repeatable. Key parameters: Concentration of additive in the blasting medium and blasting coverage. Achievable cleanliness: up to wettability with water, i.e. surface tension 70 mN/m.

H₂O
70 mN/m
= grease free

**PantaTec
gets it
clean**

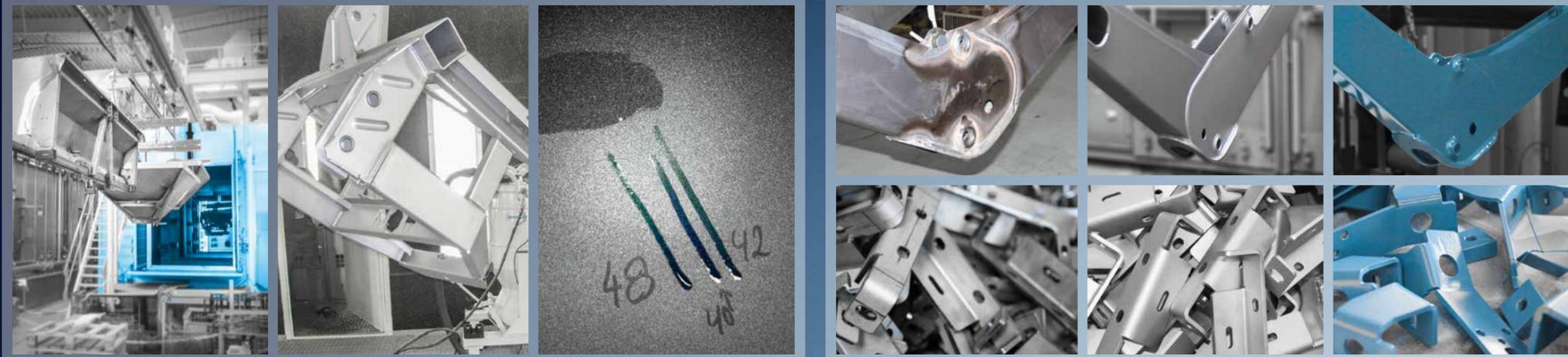
... PantaTec - get rid of grease without the elbow grease

Benefits

- Lowers the cost of surface treatment
- Combines two work steps
- Reduces or eliminates washing and drying
- Increases cleanliness, less rework
- Shortens cycle times
- Reduces energy consumption
- Minimises wear costs & consumption of material
- Reduces fire and explosion risk
- Increases the availability of the blasting system

Anti-corrosion coating

Blast cleaning for surface preparation



Oily, greasy residues

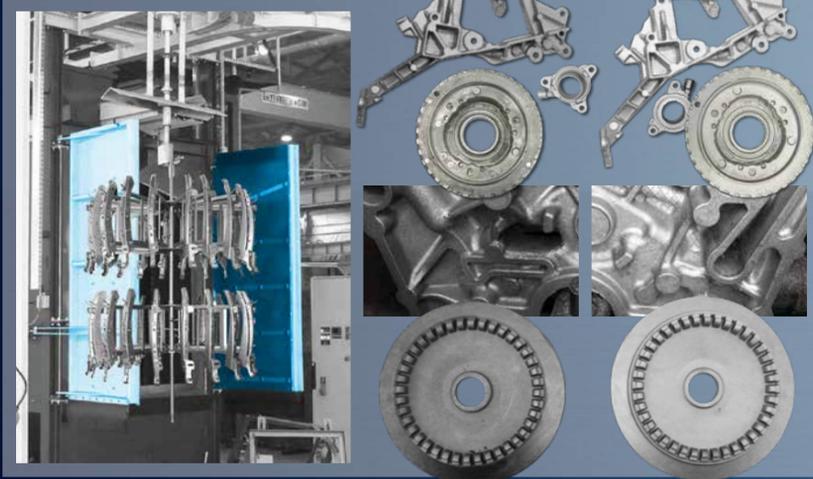
blasted + tested! clean + free of grease

untreated

shot blasted

coated

Die cast parts



Surface treatment and cleaning

bright + constant

Bulk parts



clean + less stickings

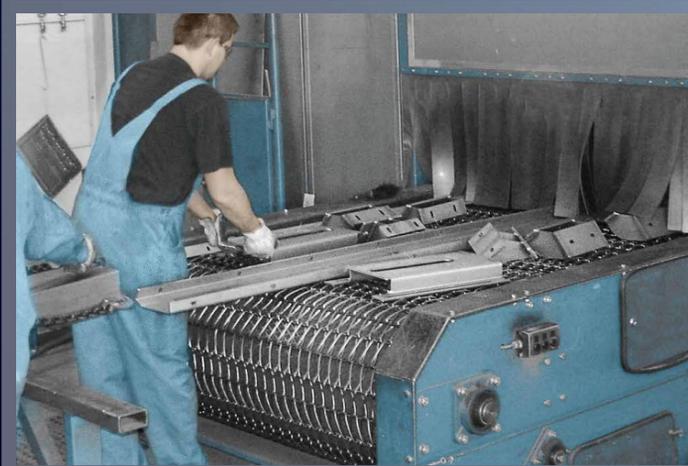
Metal forming and heat treatment



not greasy + filter free

Wheel blasting system

Air blasting system



universal



simple

... And of course fully automatic



not greasy + filter free



The PantaTec process - how it works:

Preparation

Determine the degree and type of contamination, using water pearl test on surfaces:
Untreated workpieces, blasted parts and blasting medium (operating mix).

Water repellent residues clearly visible, water solubility visible through milky wetting.



Application

Add ULTIMATE cleaning additive to blasting medium according to the level of contamination. Quantities and way for adding (e.g. intervals) depend on the goal of cleaning, the type and operation of the blasting system, etc.

For process reliability, an automatic dosing unit supplies the blasting system with ULTIMATE.

Exception:

For a short test, manual addition is possible, provided the operator takes the utmost care.



Result

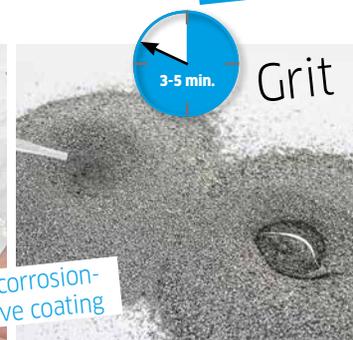
- Required roughness and cleanliness
- Defined and stable grain size of operating mix
- Clean blasting medium, virtually dust free
- Wear of the blasting machine minimised
- Reduced fire and explosion risk

Important:

Continuous addition of sufficient additive, Effective dust extraction, and air separation of the blasting medium.

Finally:

Perform regular process checks, water tests on abrasive (the blasting "tool") as well as, more importantly, on workpiece surfaces.



Greasy

Excessive dust