

Uddeholm solutions for fine blanking

# TIMELESS POSSIBILITIES



# RELIABLE SOLUTIONS – OVER TIME

Fine blanking technology was initially used mainly in the watch and clock industry but nowadays more than 60 % of fine blanked parts are used in the automotive industry. In a car they are a guarantee that the safety belt, the brake system or the airbag is working properly. Consequently, fine blanked parts play a major role for the safety in our daily lives.

The demands on the tool steel are enormous and often close to its limits. In order to choose the optimal solution for a fine blanked part, you will need a toolmaker with specialist expertise and long experience.

Complicated parts with extreme demands on precision entail big challenges. The smallest disturbance can bring production to a halt. In short, nothing must go wrong.

## GET IT ALL FROM UDDEHOLM

We will help you through the whole production chain with tool steel supply, technical support, heat- and surface treatment. Our global presence puts us in a unique position close to you. This enables us to help you make your production easier and to improve your total tooling economy. Choosing Uddeholm as your partner is a guarantee for finding the best solution for your fine blanking application. You will have a safe journey – all the way.

A SAFE JOURNEY – ALL THE WAY





SEAT RECLINER\*



SEAT HEAD REST\*



SAFETY BELT\*



GEAR SET OIL PUMP

\*Courtesy: Precomp Solutions AB

The most striking feature of fine blanking is the smoothly cut edges and the higher precision of the finished part. The advantage is that the part can fulfill its functions directly without any additional finishing, which is not the case with normally stamped parts. In order to obtain the quality and precision of the fine blanked part, using a high performance tooling material is crucial as the tool is very complex with high precision and often PVD coated. Due to the often large investment in tooling and surface coating, there is no room for compromises when it comes to the selection of tool steel.

Choosing the right steel reduces your maintenance cost. A more predictable tooling performance allows you to plan your maintenance and avoid unplanned stops. Less down time means higher productivity.

# CHOOSING THE RIGHT STEEL

## Uddeholm Caldie®

Has an excellent combination of chipping resistance and compressive strength. With very good dimensional stability it is also a perfect substrate for surface coatings. This means that Caldie is a very useful and cost effective option for fine blanking of complex parts, provided the hardness requirement is moderate.

## Uddeholm Vanadis® 4 Extra SuperClean

A well-balanced combination of properties with excellent chipping resistance and dimensional stability, together with good wear resistance and compressive strength. This makes it our best grade for most fine blanking applications.

## Uddeholm Vanadis® 8 SuperClean

Combines one of the highest wear resistances on the market with good chipping resistance and compressive strength.

## Uddeholm Vanadis® 30 SuperClean

Good chipping and wear resistance combined with a very good compressive strength for applications requiring a hardness above 64 HRC.

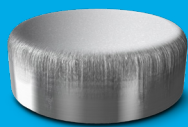
## Uddeholm Vanadis® 60 SuperClean

Almost equal to Vanadis 8 when it comes to the highest wear resistance. In addition Vanadis 60 offers moderate chipping resistance but also the best compressive strength, as it can reach a hardness of up to 70 HRC.

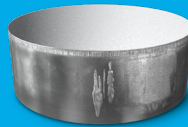
## Uddeholm Vancron® SuperClean

The low friction property of the steel gives high galling resistance and adhesive wear resistance. Together with the high abrasive wear resistance it provides a concrete solution for common challenges in fine blanking and other demanding forming and blanking operations.

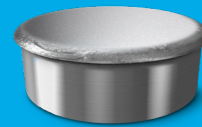
### TOOL STEEL RECOMMENDATION



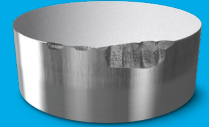
Abrasive wear



Adhesive wear/  
Galling



Plastic  
Deformation



Chipping

### PROBLEM AREAS

- High strength sheet
- Hot rolled sheet
- High carbon sheet

- Stainless sheet
- Thick sheet

- High strength sheet
- Complicated design
- Thick sheet

- High strength sheet
- Complicated design
- Thick sheet

### BEST SOLUTION

Uddeholm  
Vanadis® 8 SuperClean

Uddeholm  
Vancron® SuperClean

Uddeholm  
Vanadis® 60 SuperClean

Uddeholm  
Caldie®

### ALTERNATIVE SOLUTIONS

Uddeholm  
Vanadis® 30 SuperClean

Uddeholm  
Vanadis® 8 SuperClean

Uddeholm  
Vanadis® 30 SuperClean

Uddeholm  
Vanadis® 4 Extra SuperClean

Uddeholm  
Vancron® SuperClean

Uddeholm  
Vanadis® 30 SuperClean

Uddeholm  
Vancron® SuperClean

Uddeholm  
Vanadis® 8 SuperClean

Uddeholm  
Vanadis® 4 Extra SuperClean

Uddeholm  
Caldie®

Uddeholm Vanadis® 4 Extra  
SuperClean/ Uddeholm  
Vanadis® 8 SuperClean

Uddeholm  
Vancron® SuperClean

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Classified according to EU Directive 1999/45/EC  
For further information see our "Material Safety Data Sheets".

Edition 3, 05.2016



Manufacturing solutions for generations to come

# SHAPING THE WORLD®

We are shaping the world together with the global manufacturing industry. Uddeholm manufactures steel that shapes products used in our every day life. We do it sustainably, fair to people and the environment. Enabling us to continue shaping the world – today and for generations to come.