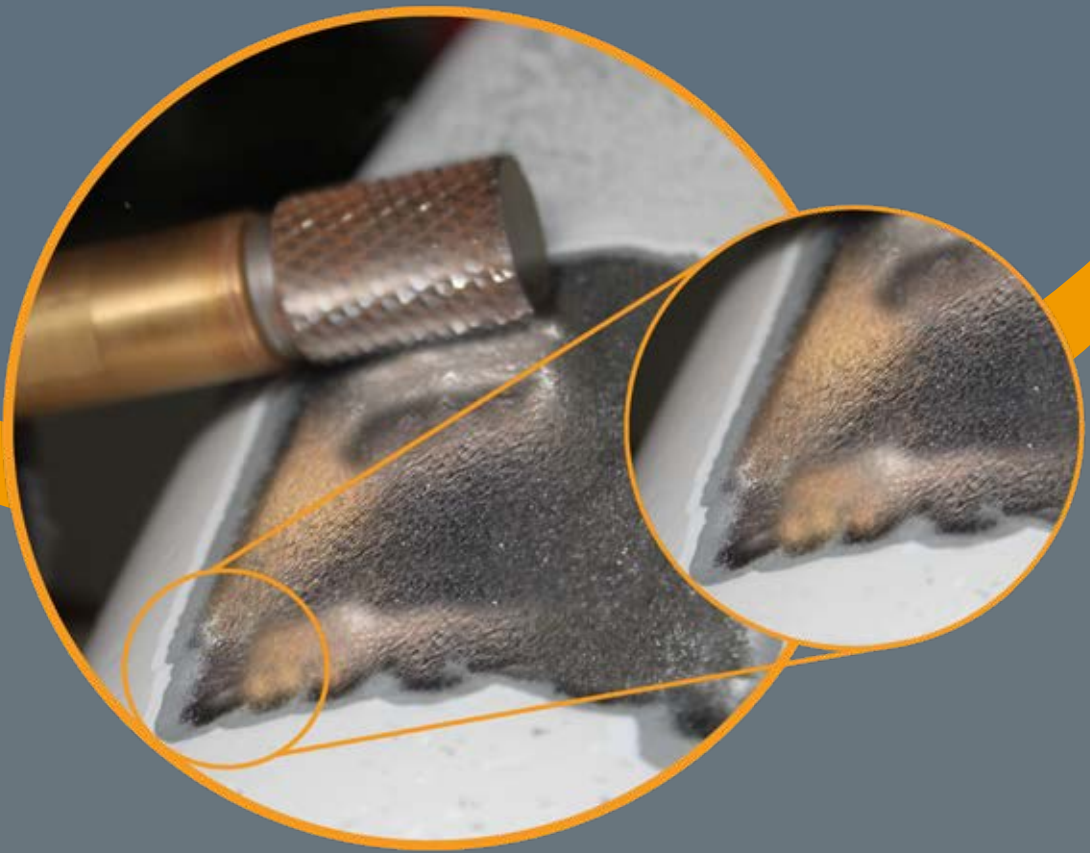


Cut the heat – Cut the risk

The “Coolest” Ex-Certified  
Surface Preparation Tools



# SPOT REPAIR CATALOGUE



# SPOT CORROSION CALCULATOR



We have created a Spot Calculator to calculate prices per spot 5\*5 cm. Digital calculator available at [safetytools.no/en/spot-calculator/](https://safetytools.no/en/spot-calculator/)

## Example 1:

Buying for the first time you need Rotating file + Air tool (operating engine).

$$\text{Cost per spot} = \frac{\text{Rotating file} + \text{air tool}}{\text{Numbers of spot rotating file repairs}}$$



**E.g.** File A-0005 Round Boy costs 708 USD and air tool A-0107 costs 1918 USD  
A-0005 Round Boy can repair 9600 damaged points of 5 \* 5 cm corroded surface.

$$(708 \text{ USD} + 1918 \text{ USD}) / 9600 \text{ spots} = 0.27 \text{ USD per spot}$$



## Corroded surface before and after treatment

## Example 2:

Buying only the rotating file A-0005 as operating engine already is in hand.

$$\text{Cost per spot} = \frac{\text{Tool cost}}{\text{Numbers of spot tool repair}}$$

$$744 \text{ USD} / 9600 \text{ spots} = 0,07 \text{ USD per spot}$$

## Big Savings

Example:

- ♦ A-0052 Wrap Solution 15 178,- USD
- ♦ A-0052 can repair 100 800 spots
- ♦ 15178/100800 spots = 0.15 USD per spot



# AREAS OF APPLICATION



Safety Tools Allmet equipment can be used instead of conventional blasting methods.

Our "Cool" technology is used in many sectors, including the oil and gas industry, the petrochemical industry, steel construction, and shipbuilding. As well as during maintenance work on bridges, offshore installations, and wind turbines.

- Corrosion maintenance on platforms
- Corrosion maintenance on ships
- Drilling deck
- Ducts/Trunks
- Engine room surface maintenance
- Flange separation preparation
- Gasket removal
- Grinding & removing reinforced chartek fiber coatings
- Grinding and surface preparation on live fixed pipelines
- Grinding small radius holes
- In between narrow openings (Grating)
- Inside ballast tanks
- Inside cargo tanks
- Inside pump room
- NDT - Non Destructive test (stress/cracks)
- Pin Hole corrosion
- Remove corrosion from valves
- Remove corrosion on small stuck bolts
- Inside H Beams corrosion maintenance & paint removal
- Remove or smooth edges
- Removing corrosion on grating
- Topside corrosion maintenance
- Weld removal



**Online cases for usage areas:**



# GRINDING TOOLS

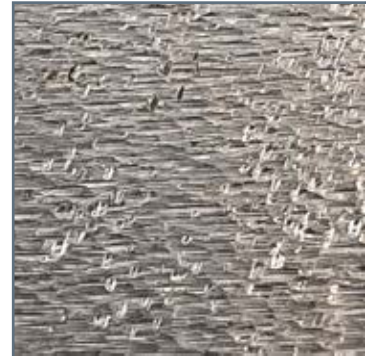


## ROTATING FILES AND DISCS

### A-0001 SLIM

A-0001 can repair 8000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0001
Total length	65 mm
Teeth	27 mm
Weight (g)	76 g



A-0001 Surface.  
Average 76 µm

### A-0002 BOW CONE

A-0002 can repair 9600  
Corrosion spots of 5\*5cm.

Product Nr.	A-0002
Total length	70 mm
Teeth	31 mm
Weight (g)	114 g

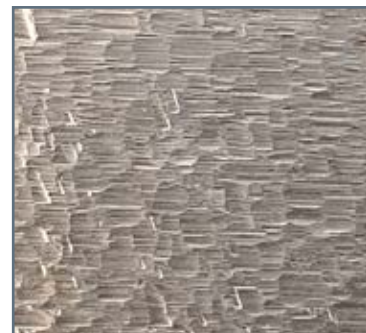


A-0002 Surface.  
Average 43 µm

### A-0003 STRAIGHT CONE

A-0003 can repair 9600  
Corrosion spots of 5\*5cm.

Product Nr.	A-0003
Total length	70 mm
Teeth	31 mm
Weight (g)	110 g



A-0003 Surface.  
Average 44 µm

# GRINDING TOOLS

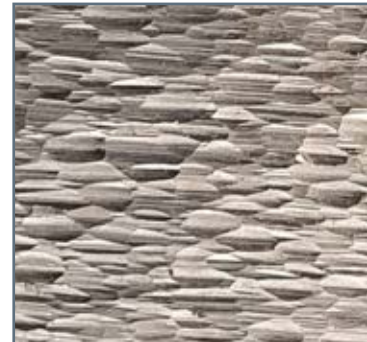


## ROTATING FILES AND DISCS

### A-0004 LITTLE PAPA

A-0004 can repair 12000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0004
Total length	65 mm
Teeth	27 mm
Weight (g)	182 g

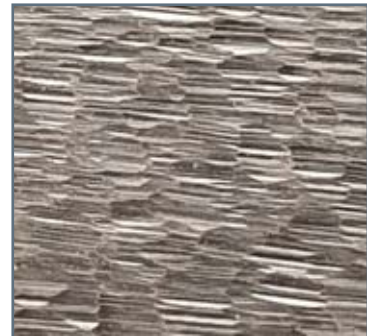


A-0004 Surface.  
Average 83  $\mu\text{m}$

### A-0005 ROUND BOY

A-0005 can repair 9600  
Corrosion spots of 5\*5cm.

Product Nr.	A-0005
Total length	65 mm
Teeth	27 mm
Weight (g)	168 g



A-0005 Surface.  
Average 53  $\mu\text{m}$

### A-0006 AL-TI-CHAR

A-0006 can repair 6000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0006
Total length	65 mm
Teeth	26 mm
Weight (g)	78 g



A-0006 Surface.  
Average 44  $\mu\text{m}$

# GRINDING TOOLS



## ROTATING FILES AND DISCS

### A-0007 SHORTY

A-0007 can repair 16000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0007
Total length	57 mm
Teeth	17mm
Weight (g)	194 g



A-0007 Surface.  
Average 56 µm

### A-0008 BIG PAPA

A-0008 can repair 16000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0008
Total length	72 mm
Teeth	32 mm
Weight (g)	282 g



A-0008 Surface.  
Average 72 µm

### A-0009 BIG BOY B/C

A-0009B/C can repair 24000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0009
Total length	95 mm
Teeth	32 mm
Weight (g)	340 g



A-0009 Surface.  
Average 63 µm

# GRINDING TOOLS



## ROTATING FILES AND DISCS

### A-0010 ROUGH BOY

A-0010 can repair 32000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0010
Total length	118 mm
Teeth	51 mm
Weight (g)	826 g



A-0010 Surface.  
Average 45 µm

### A-0500 GRINDING DISC

A-0500 can repair 32000  
Corrosion spots of 5\*5cm.

Product Nr.	A-0500
Speed	1000 rpm
Dim	80 mm
Weight (g)	410 g



A-0500 Surface.  
Average 72 µm



Custom made teeth on Safety Tools  
Allmet grinding tools removes  
material upon every contact with the  
3-step operation.

#### ***Each teeth does the same operation***


1. The teeth grabs material
2. Teeth cuts material
3. Teeth throws away blunt fragments


# ATEX PNEUMATIC TOOLS




Safety Tools Allmet is powered by pneumatic tools which Safety Tools Allmet developed in partnership with Fuji. Our air tools can only be purchased from Safety Tools Allmet or one of our distributor's worldwide.

Safety Tools Allmet air tools are specially designed to use with our files & discs in hazardous areas. They are designated safe to handle in Ex gas zones 1 and 2. EX certified by DNV

<b>A-0107 Fuji Straight Grinder (FG-2VX-50)</b>		
<b>Product Nr.</b>		FG-2VX-50
<b>Speed</b>		3000 rpm
<b>Weight</b>		894 g
<b>Air Inlet</b>		1/4" NPT

<b>A-0108 Fuji Angle Grinder (FAS-1X-50)</b>		
<b>Product Nr.</b>		FAS-1X-50
<b>Speed</b>		2000 rpm
<b>Weight</b>		842 g
<b>Air Inlet</b>		1/4" NPT

<b>A-0105 Fuji Angle Grinder (FCD-10X-52)</b>		
<b>Product Nr.</b>		FCD-10X-52
<b>Speed</b>		1000 rpm
<b>Weight</b>		2400 g
<b>Air Inlet</b>		1/4" NPT

<b>A-0104 Fuji Angle Grinder (FCD-6X-51)</b>		
<b>Product Nr.</b>		FCD-6X-51 2000
<b>Speed</b>		2000 rpm
<b>Weight</b>		1700 g
<b>Air Inlet</b>		1/4" NPT

# GRINDING TOOLS



## ROTATING FILES AND DISCS

Safety Tools Allmet files and discs are made of tungsten carbide. The hardness and the design of the teeth increases the lifetime of files and discs significantly. The fragments produced after grinding with Safety Tools Allmet are easy to clean and blunt. This offers many safety and operational benefits compared to conventional tools.



### NOTE:

*While repairing coating with tools from Safety Tools Allmet, you are not damaging the surrounding surface. Nearby equipment will not be damaged due to the low heat, slow RPM, and design of the teeth.*

**Safety Tools grinding tools are ATEX / Ex Certified for use with the following materials:**

- Stainless steel grades 304/316
- Carbon steels
- Titanium
- 6Mo stainless steel
- Aluminium

# TREATMENT



The “coolest” EX certified surface treatment tool in the world



**A-0500  
Grinding Disc**



**A-0500 Surface  
7X zoom**



- ◆ Surface roughness from 40 to 80  $\mu\text{m}$
- ◆ ATEX certified for use in gas zone 1 & 2
- ◆ Easy waste disposal
- ◆ Ideal for spot-repair

By reducing heat, noise and vibration you automatically create a safer work environment.

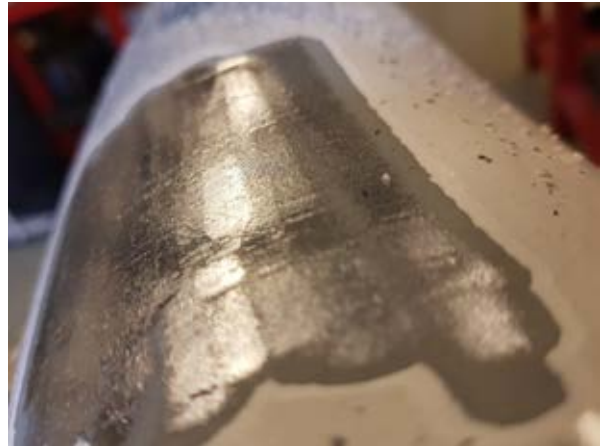


# SURFACE TREATMENT



## Surface preparation with Safety Tools Allmet equipment

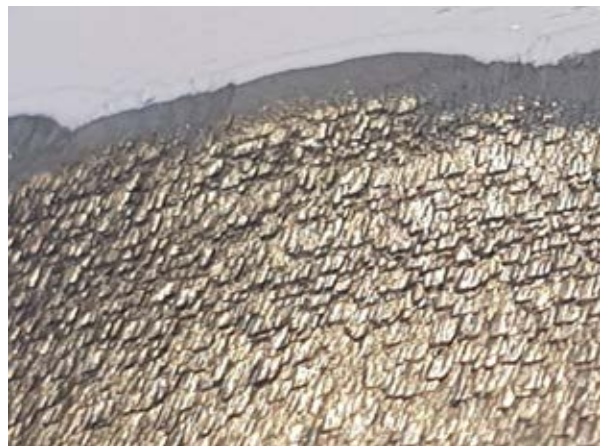
Grinding tools from Safety Tools Allmet are used for mechanical surface treatment and gives a surface cleaning standard of SSPC-SP-11.



When using Safety Tools Allmet products, you do not produce any hot sparks that will cause damage to surrounding equipment.

There will be no airborne dust that can damage sensitive equipment.

The noise level will be considerably lower than other similar products.



For spot repair you also get the benefits of a smooth and even transition between the old coating and the fresh metal. (Good feathering)

# EX CERTIFIED TOOLS



## Grinding tools for use in ATEX Gas zones



### Rotating files and discs

Safety Tools Allmet files & discs are composed mainly of tungsten carbide.

### Air Tools

Safety Tools Allmet grinders are powered by custom made pneumatic tools.

### Accessories

Our grinding kits comes with specially designed accessories that contribute to optimal safety and convenience.


### ATEX / EX Certificate

All our discs, rotating files and air tools are certified as cold work by DNV for use in ATEX gas zones 1 and 2.

Contact us at [www.safetytools.no/en](http://www.safetytools.no/en) where you can find all information about our tools.



## SAFETY TOOLS ALLMET MARKINGS - DIRECTIVE 2014/34/EU

Equipment group	For mechanical equipment	Temperature class
	<b>II 2G</b>	<b>Ex h IIA T3</b>
EX Logo	Equipment category	Gas group
		<b>Gb</b>
		For use in Zone 1 & 2

# GRINDING TOOLS PERFORMANCE



## Performance and surface profile:

Experience low vibration during operation, low heat, and low noise levels. The metal fragments are large, sharpless, and will drop just a few inches away from the work piece

## Corrosion, mill scale, and coating removal

Surface to near white visual standard (SSPC-SP-11). ST 2,5 to ST 3. (Comparable to SA 2,5 - 3)

## Surface roughness / Anchor profile

Roughness capability from 40 to 85 µm. (Microns) (+1,600 psi on Pull Test)



Spot repaired surface on deck

## NO isocyanides

There is no escape of isocyanides when grinding through polyurethane coatings.

## NO hot sparks

It is an Ex-certified product.  
Surfaces avoid thermal damage / heat markings.

## Simple and economic

No need for complex and costly abrasive blasting equipment for spot repair.



Spot repaired surface on pipeline



**A-0107 FUJI STRAIGHT GRINDER (FG-2VX-50)**



Prod.no.	Speed	Ref. no	Σ (g)	Air inlet
A-0107	3000 rpm	FG-2VX-50	894	1/4" NPT

**A-0104 FUJI ANGLE GRINDER (FCD-6X-51)**



Prod.no.	Speed	Ref. no	Σ (g)	Air inlet
A-0104	2000 rpm	FCD-6X-51	1700	1/4" NPT

**A-0108 Fuji Angle Grinder (FAS-1X-50)**



Prod.no.	Speed	Ref. no	Σ (g)	Air inlet
A-0108	2000 rpm	FAS-1X-50	842	1/4" NPT

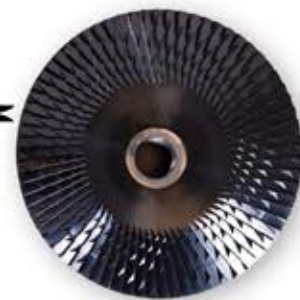
**A-0105 Fuji Angle Grinder (FCD-10X-52)**



Prod.no.	Speed	Ref. no	Σ (g)	Air inlet
A-0105	1000 rpm	FCD-10X-52	2400	1/4" NPT

Prod.no.		Total length	
A-0001 Slim		65mm	Teeth 27mm
A-0002 Bow Cone		70mm	Teeth 31mm
A-0003 Straight Cone		70mm	Teeth 31mm
A-0004 Little Papa		65mm	Teeth 27mm
A-0005 Round Boy		65mm	Teeth 27mm
A-0006 Al-Ti-Char		65mm	Teeth 26mm
A-0007 Shorty		57mm	Teeth 17mm
A-0008 Big Papa		72mm	Teeth 32mm
A-0009B Big Boy B		95mm	Teeth 32mm
A-0009 C Big Boy C		95mm	Teeth 32mm
A-0010 Rough Boy		118mm	Teeth 51mm

**GRINDING DISC FOR PAINT Used with A-0105**



Prod.no.	Σ (g)	Dim
A-0500	410	Ø 80 mm

**A-0062**  
(Optinal)  
Cooling cap for Straight grinder  
Fuji FG-2-VX50 (A-0107)

**A-0065**  
Covering for angle grinder  
Fuji FCD 10X 52 (A-0105)

**A-0068**  
Drop safety device  
for all air engines and  
handle A-0060

**A-0060**  
Handle for file A-0009 B and  
A-00009 C

**A-0060 RB**  
Handle for  
"Rough Boy" A-0010

# Use of Safety Tools Allmet equipment gives you **BENEFITS:**

- EX-certified by DNV
- No need for hot work permit
- Spend less time on risk evaluations
- No job delay
- No need for habitats
- No need for fire guards
- No hot sparks
- No dangerous sharp splinters
- No emission of isocyanates
- Low heat (30–60°C average)
- Low vibration – (2.5 m/s average)
- Low noise (80–85 dB average)
- Roughness profile 40–80 micron's
- Discs and files are harder than an industrial diamond – last longer



*“The Safety Tools Allmet grinding tools were tested under anticipated worst case conditions – operations within explosive mixtures of propane and acetylene. It was not found possible to provoke ignition of the explosive mixtures during any of the tests performed.”*

Geir H. Pedersen, Principal engineer, Gexcon AS



**SAFETY TOOLS**   
**allmet**

**SAFETY TOOLS ALLMET AS**

Idrettsvegen 115  
5353 Straume  
Norway

Contact:

+ 47 56 32 36 50  
sales@safetytools.no  
post@safetytools.no

<https://safetytools.no/>



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