

# Table-top vibrofinishing - MINOR XS



Additional Information to treat gold articles - MINOR XS



Introduction - The finishing process for gold articles that we are going to describe, can easily fit customer's specific requirements, according to the starting surface condition of the workpiece: beginning from rough or half-processed state, or otherwise from an already refined article, the five simple processing stages that guarantee the maximum versatility and the best outcome.

# MINOR XS - Stage A: deburring



Deburring: suggested processing phase if the pieces are rough or coming from other mechanical finishing, which may present opaque surface, sharp edges, small burrs and scratches or notches. The following pictures show the starting rough stage of the samples used for the guide process.

## Stage A.1 Preliminary phase



Arrange the wet-processing filter on the bottom of the working tank.

Prepare the suitable charge of PB 12 KB, about 2,4 Kg for Minor XS-3 and about 3,7 Kg for Minor XS-6, taking care to rinse the charge with clean water in order to eliminate any dust.

PB 12 KB: conical shape and low removal rate plastic media - white colour.



Prepare in a clean graduate 30 ml (Minor XS-3) or 50 ml (Minor XS-6) of Rollkemik ME L100 N12 .

ME L100 N12: detergent liquid chemical compound, with smoothing and polishing function.



Prepare in a clean graduate 300 ml (Minor XS-3) or 500 ml (Minor XS-6) of clean water, preferably demineralized or with low conductivity ( $300 \div 400 \mu\text{S}/\text{cm}^3$ ).



Optional: prepare a table spoon with CU 5/S abrasive compound in case the pieces show scratches, notches or burrs, in order to obtain a more efficacious action respect to the articles.

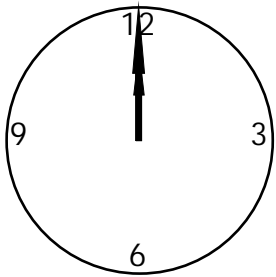
CU 5/S: powder chemical compound with low removal rate.

# MINOR XS - Stage A: deburring



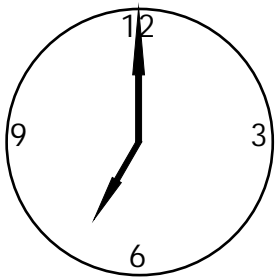
Fill the working tank with PB 12 KB charge;  
Stop the water downflow by bending the unloading pipe in the proper port, on the upper edge of the tank.  
Start up the vibrator, and distribute the ME L100 N12 in different points of the tank so as to obtain the best possible diffusion in the media charge.  
Add the prepared water into the tank, with a slow and uniform flow to avoid sprinkling.  
- Optional: spread CU 5/S from the spoon in the working tank: a ring of white foam appears on the surface, for this reason we suggest to use the cover provided with the MINOR-XS-6.

## Stage A.2 Start of the cycle



At this point, insert the workpieces into the tank, starting time of the first stage

## Stage A.3 Middle phase

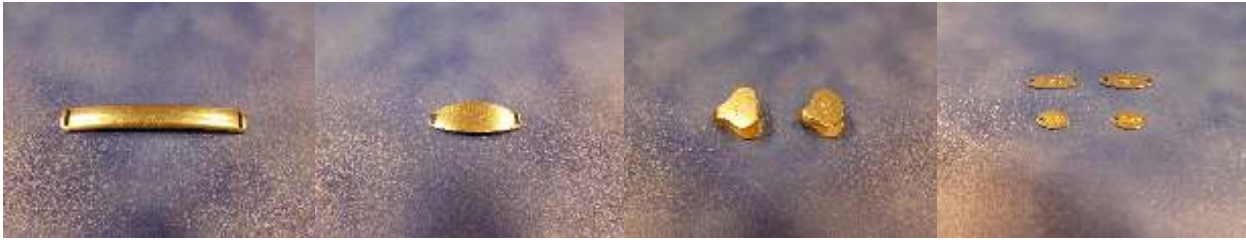


Stop the vibrator after about 7 hours

## Stage A.4 End of the cycle - Unloading

Take out the pieces from the tank: depending on their quantity and size, it may result more practical to unload them while the media are still moving, stopping the vibrator only in the end.  
Rinse the pieces in a separate tank, and dry them with a soft sheet or blotting-paper.  
Release the unloading pipe from its port and let unload the water into an external tank. Remember to rinse PB 12 KB media charge with clean water, washing the working tank in the end with blotting-paper: the vibrator is ready for next stage.

# MINOR XS - Stage B: Smoothing



Smoothing: it is the following step of deburring, essential preparation for final polishing. Pieces with opaque surface or minimum surface imperfection may be worked starting from this stage. The following pictures show the state of the samples used for the guide process, after deburring stage.

## Stage B.1 Preliminary phase



In the bottom of the working tank replace the wet-processing filter with the dry-processing cap.  
Prepare a suitable charge of PGSI D15 LV, about 2,1 Kg for Minor XS-3 and about 3,2 Kg for Minor XS-6.

PGSI D15 LV: vegetable media of medium grain size.



Prepare an half table spoon of CREL F/05 abrasive paste

CREL F/05: medium abrasive paste, suitable for fine smoothing



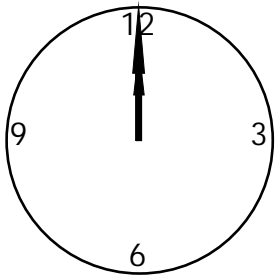
Be sure the working tank is perfectly dry and then fill it with PGSI D15 LV charge.

Spread the abrasive paste CREL F/05 on the vegetable media surface, rubbing it as much as possible with fingers – the compound is absolutely not toxic.

# MINOR XS - Stage B: Smoothing

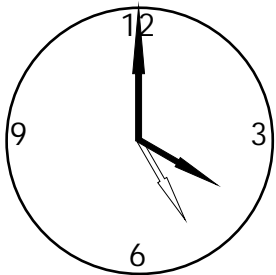


## Stage B.2 Start of the cycle



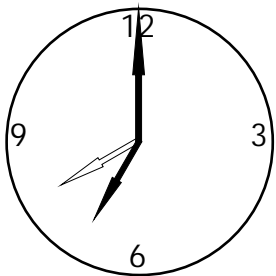
At this point, insert workpieces into the tank, starting time of the second stage.

## Stage B.3 Middle phase



After 4÷5 hours of working time add another half spoon of CREL F/05 abrasive paste.

## Stage B.4 Middle phase



Stop the vibrator after about 7÷8 hours.

## Stage B.5 End of the cycle - Unloading

Take out the pieces from the tank: depending on their quantity and size, it may result more practical to unload them while the media are still moving, stopping the vibrator only in the end.

Clean pieces with a dry soft sheet or blotting-paper.

Remember to dry-clean the working tank with blotting-paper: the vibrator is ready for next stage.

# MINOR XS - Stage C: Pre-polishing



Pre-Polishing (Optional): optional working step to be done after smoothing, which allows to get the best result from the next stage of polishing; if coupled with the superfinishing process it is possible to obtain the best result for gold articles with the machine of the XS-6 series.. The following pictures show the state of the samples used for the guide process, after smoothing stage.

## Stage C.1 Preliminary phase



The dry-processing cap is already placed on the bottom of the tank.  
Prepare the suitable charge of media PGSI D40 LC, about 2,1 Kg for Minor XS-3 and about 3,2 Kg for Minor XS-6.

PGSI D40 LC: vegetable media of fine grain size.



Prepare an half table spoon of C-PREL 05 fine abrasive paste.

C-PREL 05: middle abrasive paste, specific for pre-polishing process.

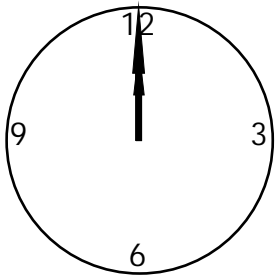


Be sure the working tank is perfectly dry and then fill it with PGSI D40 LC charge.  
Spread the C-PREL 05 abrasive paste on the vegetable media surface, rubbing it as much as possible with fingers – the compound is absolutely not toxic.

# MINOR XS - Stage C: Pre-polishing

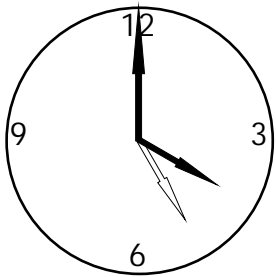


## Stage C.2 Start of the cycle



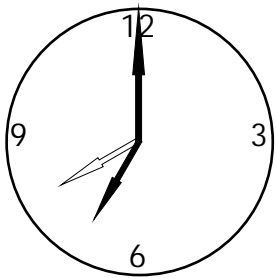
At this point, insert workpieces into the tank, starting time of the third stage

## Stage C.3 - Middle phase



After 4÷5 hours of working time add another half spoon of C-PREL 05 abrasive paste..

## Stage C.4 Middle phase



Stop the vibrator after about 7÷8 hours

## Stage C.5 End of the cycle - Unloading

Take out the pieces from the tank: depending on their quantity and size, it may result more practical to unload them while the media are still moving, stopping the vibrator only in the end.

Clean pieces with a dry soft sheet or blotting-paper.

Remember to dry-clean the working tank with a dry soft sheet or blotting-paper: the vibrator is ready for next stage.

# MINOR XS - Stage D: Polishing



Polishing: final working step, to be carried out only for pieces without imperfections such as scratches, burrs or sharp edges. The following pictures show the state of the samples used for the guide process, after pre-polishing stage.

## Stage D.1 Preliminary phase



The dry-processing cap is already placed on the bottom of the tank.  
Prepare the suitable charge of media PGSI D40 LC, about 2,1 Kg for Minor XS-3 and about 3,2 Kg for Minor XS-6.

PGSI D40 LC: vegetable media of fine grain size.



Prepare an half table spoon of CBF 15 fine abrasive paste.

CBF 15: fine abrasive paste, suitable for polishing.

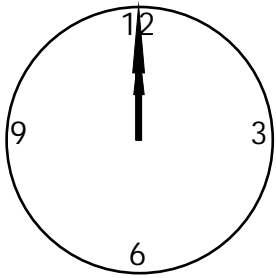


Be sure the working tank is perfectly dry and then fill it with PGSI D40 LC charge.  
Spread the abrasive paste CBF 15 on the vegetable media surface, rubbing it as much as possible with fingers – the compound is absolutely not toxic.

# MINOR XS - Stage D: Polishing

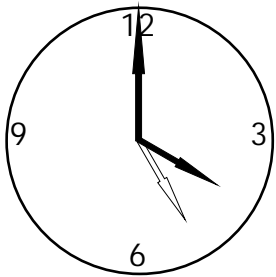


## Stage D.3 Start of the cycle



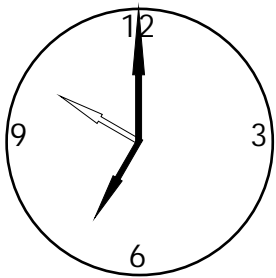
At this point, insert workpieces into the tank, starting time of the fourth stage.

## Stage D.3 Middle phase



After 4÷5 hours of working time add another half spoon of abrasive paste CBF 15.

## Stage D.4 Middle phase



Stop the vibrator after about 7÷10 hours.

## Stage D.5 End of the cycle - Unloading

Take out the pieces with care from the tank: depending on their quantity and size, it may result more practical to unload them while the media are still moving, stopping the vibrator only in the end.

Clean pieces with a dry soft sheet, handling them with great care.

Remember to dry-clean the working tank with a dry soft sheet or blotting-paper: the vibrator is ready for next stage.

# MINOR XS - Stage D: Polishing



## Results



The pictures show the samples after the described guide process. The MINOR XS is a series of practical and cheap machine with high reliability and long life, that are able to get excellent finishing on gold articles.

# MINOR XS - Stage E: Superfinishing



Superfinishing (Optional): optional working step, which can be done after the usual finishing process, for pieces that are already refined but not shining enough that usually have flat surfaces with slight imperfections. The following pictures show the state of the samples used for the guide process, after polishing stage.



## Stage E.1 Preliminary phase



The dry-processing cap is already placed on the bottom of the tank.  
Prepare the suitable charge of media PGSI D45 LC, about 2,1 Kg for Minor XS-3 and about 3,2 Kg for Minor XS-6.

PGSI D45 LC: vegetable media with extra-fine grain size



Prepare an half table spoon of extra-fine abrasive cream SUFI 10X.

SUF1 10X: extra-fine abrasive cream, suitable for most delicate polishing.



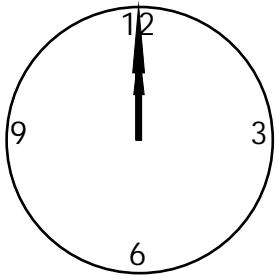
Be sure the working tank is perfectly dry and then fill the it with PGSI D45 LC charge.

Spread the SUFI 10X abrasive cream on the vegetable media surface, rubbing it as much as possible with fingers – the compound is absolutly not toxic.

# MINOR XS - Stage E: Superfinishing

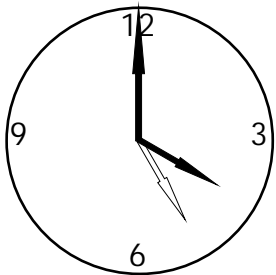


## Stage E.2 Start of the cycle



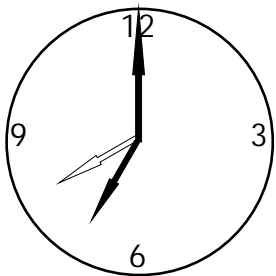
At this point, insert workpieces into the tank, starting time of the second stage.

## Stage E.3 Middle phase



After 4÷5 hours of work time add another half spoon of SUFI 10X abrasive cream .

## Stage E.4 Middle phase



Stop the vibrator after about 7÷8 hours.

## Stage E.5 End of the cycle - Unloading

Take out the pieces with care from the tank: depending on their quantity and size, it may result more practical to unload them while the media are still moving, stopping the vibrator only in the end.  
Clean pieces with a dry soft sheet or blotting paper, handling them with great care.  
Remember to dry-clean the working tank with a dry soft sheet or blotting-paper: the vibrator is ready for the next stage.

# MINOR XS - Stage E: Superfinishing



Superfinishing results



The following pictures show the samples after the described guide process, at the best achievable quality for MINOR XS series.

Working stage summary

Working Stage	Suggested Time	Finishing Degree
Stage A	8 hours	
Stage B	8 hours	Good
Stage D	10 hours	

Working Stage	Suggested Time	Finishing Degree
Stage A	7 hours	
Stage B	7 hours	
Stage D	10 hours	Very good
Stage E	8 hours	

Working Stage	Suggested Time	Finishing Degree
Stage A	7 hours	
Stage B	7 hours	
Stage C	7 hours	Excellent
Stage D	7 hours	
Stage E	7 hours	

Additional information to treat gold articles - MINOR XS