CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1997
DateRun:	08/17/1997
Experimenters:	Jason Marshall, Prashant Trivedi
ClientType:	Machining Company
ProjectNumber:	Project #1
Substrates:	Steel
PartType:	Coupon
Contaminants:	Lubricating/Lapping Oils, Metal fines
Cleaning Methods:	Ultrasonics
Analytical Methods:	Visual
Purpose:	To evaluate additives for eliminate rusting

Experimental Procedure:

Two additives were tested in order to eliminate the rusting of the parts. In each case the additives were mixed into the rinse water. One cleaner from Trial #2 was used to clean the parts in the 40kHz ultrasonic unit for five minutes. The temperature used will depend upon the additive used.
The first additive used was Daraguard 416 rinse aid. The temperature of the cleaning bath was set to 100 F while the rinsing was performed at room temperature. The parts were dried as fast as possible using Kimwipes.

The second additive use was Daracoat 615 rust preventive. The cleaning bath temperature, cleaning temperature and drying method were all the same as in Trial #2.

The cleaner used was:
Company Name-Product Name
Calgon Corporation-AK 6215
The additives used were:
Company Name-Product Name
W.R. Grace-Daraguard 416
W.R. Grace-Daracoat 615
SUBSTRATE MATERIAL: 1010 cold rolled steel
CONTAMINANTS: metal chips & Coolube 2210 (Triglycerol & propylene glycol esters of C8 & C10 acid)

Results:

Both products eliminated the rusting problem.

Cleaning Chemistries
Company-Contact Person--Telephone Number
Ardrox, Inc.-Tony Pavesich--714-739-2821
Calgon Corporation-Dave Gaitzek--412-777-8000
W.R. Grace-Joanne Quitmey--617-861-6600

Cleaning Instruments
Ultrasonic Units
Company-Contact Person--Telephone Number
Crest Ultrasonics-Patrick Lynss---860-974-1982
-Doug MacDougall--617-784-0550
Branson Ultrasonics--203-796-0400
Ney Ultrasonics-Russell Manchester--860-242-2281
Lewis-Mark Kressner--860-875-6357

Company-Contact Person--Telephone Number
Mikro-Mark Kressner--860-875-6357
New England Sales-Stephen Madden--617-826-8855
Hotsy Equipment Co-Joe Barron--800-544-7790
Atcor-JuanBardina--408-629-6080

If these companies do not work out for you, contact the lab so that you may come in and look through the files that are here.

Summary:

Substrates:	Steel				
Contaminants:	Lubricating/Lapping Oils, Metal fines				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Calgon Corporation	AK 6215	5	0.00	☑	
Magnaflux	Daracoat 615		0.00	☑	
Magnaflux	Daraguard 416		0.00	☑	

Conclusion:

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Both the additives used were effective in stopping the parts from rusting. Another aspect of the cleaning process not discussed so far was the number of parts that need to be cleaned. In order to accommodate the vast number, a device which rotates the parts around should be used in order for all surfaces to be exposed during the cleaning process. Also, compressed air would also be a good drying alternative to use. The compressed air would remove the excess water much faster than the infrared heat lamp.

The company contact names and numbers are provided to help the client in selecting the product that best meets the cleaning parameters. Also MSDSs and technical data sheets can be obtained by calling the companies.