

RFI 27

Project: COOLEY LABORATORY RENOVATION
Job: 3146 COOLEY LAB, PPA# 10-0023
Customer: STOFMT MSU BOZEMAN
Issued To: CONSTRUCTION MANAGEMENT SERV.
P.O. BOX 7274
BOZEMAN, MT 59715

POTENTIAL IMPACTS
Cost Impact: No
Schedule Impact: No

Attention: DONALD J. PLATISHA
Phone/Fax: 406 585-0611 / 406 585-2698

Coordination copies to:

Item: PVC Coated Ductwork Type: MECH
Reference: Spec. Section:
Attachments: Product Data

Description of Request

QUESTION:
The specifications call for G90 coated 4x1 mil Thickness PVC. We request a variance to supply G60 galvanized coated 4x4 mil thickness inside and out. The reason we are asking for this variance is because G90 PVC Coated is not readily available. Current lead time as of today's date is 12-15 weeks to receive the coil, and 2-3 weeks to produce spiral pipe, or roughly 14-18 weeks out. This will impact being able to close in shafts and walls. G60 4x4 coated material is in stock.

Respond By: 09/14/11 By: TIM THOLT

Response

The use of G60 steel as the base metal is acceptable. The RFI notes that both interior and exterior of duct is intended to be coated with PVC. Only inner coating is specified and exterior is intended to be galvanized finish exposed to view. MSU and /or architect must OK the use of PVC on the duct exterior.

Response by: Dave Broquist, GPD Date: 9-8-11

Per Conversation with the Architect (Frank) and MSU (Cecilia) PVC coating on the exterior is acceptable the Color shall be White.

Cecilia Vaniman, MSU Date 9/12/11

Signed: _____ Date: _____

Proceed as Indicated: _____ Date: _____

Owner Authorized Representative

RFI - REQUEST FOR INFORMATION

DATE: 09/07/11	RFI NO. H-001	ORIGINATOR: TCME To: Dick Anderson Contruccion	CONTRACT NO. MSU Cooley Lab
PROJECT DESCRIPTION: MSU Cooley Lab		ATTENTION OF: Tim Tholt	
SUBJECT: MSU Cooley Lab PVC Coated Ductwork – Variance Request			
OPERABLE UNIT: MAJOR WORK TASK:		REFERENCE DWG., P.O., TAG, SPECIFICATION NO. (FOR DEVIATIONS OR DEFICIENCIES)	
Priority _____ Informational _____ Low Importance _____ Important _____ High Importance x Urgent			
<u>PVC Coated Ductwork:</u> <ul style="list-style-type: none"> • Spec Calls for G90 Coated 4x1 mil Thickness PVC <p>Request Variance to supply G60 Galvanized Coated 4x4 mil Thickness inside and out</p> <p><u>Reason For Variance:</u></p> <ul style="list-style-type: none"> • G90 PVC Coated is not readily available – Current lead time as of today’s Date is 12-15 weeks to receive the coil, 2-3 weeks to produce the pipe • G60 4x4 coated Material is in stock <p>See attached PVC/PDF Specification as well as chemical Sheet for G60 4x4 Mil</p>			
		<input checked="" type="checkbox"/> Material Substitution <input type="checkbox"/> Vendor Material Deficiency <input type="checkbox"/> Scope <input checked="" type="checkbox"/> Clarification/Information <input type="checkbox"/> Other Final Design Document	Tri-County Mechanical & Electrical, Inc. <i>Don Blixt</i> _____ Date <u>09/07/11</u>
RESPONSE/DIRECTIVE:			
CC: Architect: Owner’s Representative: Project Manager: Superintendent: RFI Log & File File: MSU Cooley Lab			



Submittal and Product Data for 4x4 Polyvinyl Coated Galvanized Steel

Product Data:

- Galvanized Base Metal:
 - Galvanized forming steel, not chem treat lightly oil, min spangle, TMPR coils G60---ASTM A653-latest revision FS Type B.
- Polyvinyl Coating:
 - 4 mil coating both sides of base metal.
 - Valshield SM White SPRL TU, DGW0037.1000
 - Entershield R PLAS, 561Y007

Process:

- Prime, hot-dipped, G-60 galvanized steel that is cleaned and fire treated.
- A special epoxy primer is bonded to both sides of the metal
- A 4-mil polyvinyl coating is heat-fused to both sides of the metal.

Product application:

- It is up to the user to determine the suitability of PVC coated galvanized for any particular product.

Available in:

- Gauges - 26ga, 24ga, 22ga, 20ga
- Slit to width – min of 2", max of 60"

See attached Dimensional Guide as manufactured by SET Duct Manufacturing, Inc. and in accordance with 2005 SMACNA standards.

Respectfully,

Samuel D. Gibson

Cell: (734)718-2755

Email: sgibson@setenterprises.com

SUBMITTAL



PROJECT:

LOCATION:

ENGINEER:

CUSTOMER:

SYSTEM

PRODUCT

PVC coated Single Wall Round
Spiral Duct and Matching Fittings.

CONSTRUCTION

*All spiral pipe and fittings
are manufactured in
accordance with the latest
edition of SMACNA 2005
Duct Construction Standards.*

MATERIAL

Steel is of lock-forming quality, conforming to A-653 standards manufactured as Spiral Lock-seam in accordance with the following table:

Spiral Duct

Gauge

Fittings

SPIRAL DUCT/PIPE * FITTINGS * SEALANT * ACOUSTICAL/THERMAL PANELS * ANGLE RINGS

P. O. Box 14439 5936 EDEN DRIVE FORT WORTH, TX 76117
800-299-8340 email spiral@lewisandlambert.com * 817-834-2971 fax
WEB PAGE www.lewisandlambert.com/spiral.html

SUBMITTAL



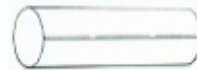
COMMENTS:

SPIRAL DUCT/PIPE * FITTINGS * SEALANT * ACOUSTICAL/THERMAL PANELS * ANGLE RINGS

P. O. Box 14439 5936 EDEN DRIVE FORT WORTH, TX 76117
800-299-8340 email spiral@lewisandlambert.com * 817-834-2971 fax
WEB PAGE www.lewisandlambert.com/spiral.html



SPIRAL PIPE



LONG SEAM PIPE

Project:

Quote #:

SINGLE WALL ROUND PIPE & FITTINGS				
E5-90	E3-45	SE-90	SE-45	E3-60
E2-30	E2-22 1/2	EV2-90	HTE3-90	HTE2-45
T1	T1R	T2R	CT1	CT1R
CT2R	HT1	HT1R	HT2	HT2R
L1	L1R	L2	L2R	CL1
CL1R	CL2	CL2R	R1	ER1

Dimensions: A = Inlet Size B = Outlet Size C, D = Branch Sizes R = Radius

*Items checked or highlighted are included in this project.



Project:

Quote #:

SINGLE WALL ROUND PIPE AND FITTINGS				
OS	BM	Y2	Y2	BT
BTR	DEP	FEC	SQR	DC
FC	TP	TSP	TCP	TCSP
LP	LSP	HTP	HTSP	LCP
	<u>Flanges In</u> 	<u>Flanges Out</u> 	<u>Flanges In</u> 	<u>Flanges Out</u>
LCSP	PRTI	PRTO	PTRBI	PTRBO
AccuFlange	SpiralMate	Angle Ring		

Dimensions: A = Inlet Size B = Outlet Size C, D = Branch Sizes R = Radius

*Items checked or highlighted are included in this project.

A Division of ARK II Manufacturing, LLC

33106 W. Eight Mile Road - Farmington, Michigan 48336 - Phone 248-615-8800 - Fax 248-615-8801

PCD LAB TESTS

The following laboratory tests provide a guideline for PCD ducting of exhaust fumes. As actual conditions, such as temperature and concentration vary greatly, samples are available upon request to test and approve for each application.

E = Excellent		G = Good		S = Satisfactory		U = Unsatisfactory		**Not Tested	
Chemical			Chemical			Chemical			
Acetaldehyde	U	Ammonium Nitrate	E	Bromine Water	E				
Acetamide	**	Ammonium Monophosphate	**	Butadiene	E				
Acetate Solvents-Crude	U	Ammonium Oxalate	**	Butane	E				
Acetate Solvents-Pure	U	Ammonium Persulphate	E	Butanol Primary	E				
Acetic Acid 0-20%	U	Ammonium Phosphate	E	Butanol Secondary	E				
Acetic Acid 20-30%	U	Ammonium Sulfate	E	Butyl Acetate	U				
Acetic Acid 30-60%	U	Ammonium Sulfide	E	Butyl Alcohol	E				
Acetic Acid 80%	U	Ammonium Thiocyanate	E	Butylene	E				
Acetic Acid - Glacial	U	Amyl Acetate	U	Butyl Phenol	E				
Acetic Acid - Vapors	U	Amyl Alcohol	E	Butynediol	E				
Acetic Anhydride	U	Amyl Chloride	U	Butyric Acid	G				
Acetone	U	Aniline	U	Cadmium	**				
Acetyl Chloride	E	Aniline Chlorohydrate	U	Calcium Bisulfite	E				
Acetylene	E	Aniline Hydrochloride	U	Calcium Carbonate	E				
Adipic Acid	E	Anthroquinone	E	Calcium Chlorate	E				
Alcohol, Allyl	E	Anthroquinone Sulfonic Acid	E	Calcium Chloride	U				
Alcohol, Amyl	E	Antimony Trichloride	E	Calcium Hydroxide	E				
Alcohol, Butyl	E	Aqua Regia	U	Calcium Hypochlorite	U				
Alcohol, Ethyl	E	Arsenic Acid	E	Calcium Nitrate	E				
Alcohol, Methyl	E	Arsenius	**	Calcium Sulfate	E				
Alcohol, Propyl	E	Arylsulfonic Acid	E	Carbonated Beverages	**				
Alkaform Anesthesia	**	Baking Oven Gases	**	Carbolic	**				
Allyl Chloride	U	Barium Carbonate	E	Carbonic Acid	E				
Alum	E	Barium Chloride	E	Carbon Bisulfide	U				
Alum, Chrome	E	Barium Hydrate	**	Carbon Dioxide	E				
Alum, Potassium	E	Barium Hydroxide	E	Carbon Monoxide	E				
Aluminum Chloride	E	Barium Sulfate	E	Carbon Tetrachloride	S				
Aluminum Fluoride	E	Barium Sulfide	**	Castor Oil	E				
Aluminum Hydroxide	E	Beer	E	Caustic Potash	S				
Aluminum Oxychloride	E	Beet	E	Caustic Soda	S				
Aluminum - Molten	**	Benzol	U	Chloroacetic Acid	E				
Aluminum Nitrate	E	Benzoldehyde	U	Chloralhydrate	E				
Aluminum Sulfate	E	Benzene Sulfonic Acid 10%	E	Chloric Acid 20%	E				
Alum Sulfuric Acid 40-70 95%	U	Benzoic	E	Chlorine Gas	G				
Ammonia, Gas	E	Bismuth Carbonate	E	Chlorine Water	U				
Ammonia, Liquid	S	Black Liquor	E	Chloribenzene	U				
Ammonia, Aqua 10%	**	Bleach	U	Chloroform	U				
Ammonium Acetate	**	Borax	E	Chlorosulfonic Acid	E				
Ammonium Bifluoride	E	Boric Acid	E	Chrome Alum	E				
Ammonium Bromide	**	Boron Trifluoride	E	Chromic Acid 50 %	U				
Ammonium Carbonate	E	Bordeaux Mixture	**	Cider	**				
Ammonium Chloride	E	Breeder Pellets	E	Citric	E				
Ammonium Chloride 25%	E	Brine	E	Copper Carbonate	**				
Ammonium Hydroxide 28%	E	Bromic Acid	E	Copper Chloride	E				
Ammonium Metaphosphate	E	Bromine Liquid	U	Copper Cyanide	E				

E = Excellent		G = Good		S = Satisfactory		U = Unsatisfactory		**Not Tested	
Chemical		Chemical		Chemical		Chemical		Chemical	
Copper Flouride	E	Glycol	E	Methyl Chloride	U				
Copper Nitrate	E	Glycolic Acid	E	Methyl Sulfate	E				
Copper Sulfate	E	Green Liquor	E	Methyl Sulfuric Acid	E				
Cottonseed Oil	E	Heptaine	E	Methylene Chloride	U				
Cresol	U	Hexane	E	Milk	E				
Cresole	**	Hexanol Tertiary	E	Mineral Oil	E				
Cresylic Acid 50%	**	Hydrobromic Acid 20%	E	Mine Water	**				
Croton Aldehyde	U	Hydrochloric Acid 35%	E	Mixed Acids	U				
Crude Oil	E	Hydrochloric Acid 50%	E	Molasses	E				
Cyclchexanol	U	Hydrocyonic Acid 10%	E	Molybdc	**				
Cyclohexanon	U	Hydrofluoric Acid 50%	E	Monoethanolamine	**				
Deminerlized Water	E	Hydrogen	E	Naptha	E				
Dextrin	E	Hydrogen Cyanide	E	Napthalene	U				
Dextrose	E	Hydrogen Peroxide 50%	E	Nickel Chloride	E				
Diazo Salts	E	Hydrogen Phosphide	E	Nickel Nitrate	E				
Diglycolic Acid	E	Hydrogen Sulfide Dry+	E	Nickel Sulfate	E				
Dimethylamine	U	Hydrogen Sulfide Aqueous Sol.	E	Nicotine	E				
Diocetylphthalate	U	Hydroquinone	E	Nicotinic Acid	E				
Disodium Phosphate	E	Hydroxylamine Sulfate	E	Nitric Acid 10%	E				
Ethers	U	Hypochlorous Acid	E	Nitric Acid 70%	U				
Ethyl Acetate	U	Iodine	U	Nitric Acid 100%	U				
Ethyl Acrylate	U	Jet Fuel JP-4	E	Nitrobenzene	U				
Ethyl Alcohol	E	Jet Fuel JP-5	E	Nitrous Acid 10%	**				
Ethyl Chloride	U	Kerosene	E	Nitrous Oxide	E				
Ethyl Ether	U	Ketones	U	Ocenol	E				
Ethylene Bromide	U	Kraft Liquor	E	Oil and Fats	E				
Ethylene Chlorohydrin	U	Lactic Acid 25%	E	Oleic Acid	E				
Ethylene Dichloride	U	Lactic Plus Salt	**	Oleum	U				
Ethylene Glycol	E	Lard Oil	E	Oxalic Acid	E				
Fatty Acid	E	Lauric Acid	E	Oxygen	E				
Ferric Chloride	**	Lauryl Chloride	E	Ozone	G				
Ferric Nitrate	E	Lead Molten	**	Palmitic Acid 10%	E				
Ferric Sulfate	E	Lead Acetate	E	Palmitic Acid 70%	E				
Ferrous Chloride	E	Lemon Oil	**	Peracetic Acid 40%	**				
Ferrous Sulfate	E	Linseed Oil	E	Perchloric Acid 10%	E				
Florine Gas	E	Linoleic Acid	E	Perchloric Acid 70%	U				
Fluorobonic Acid	E	Liqueurs	E	Phenol	E				
Fluorosilicic Acid	E	Lubricating Oil	**	Phenylhydazine	U				
Formaldehyde	E	Lysol	**	Phenylhydazine Hydrochloride	U				
Formic Acid	**	Magnesium Carbonate	E	Phosgene Liquid	U				
Freon-12	E	Magnesium Chloride	E	Phosgene Gas	E				
Fructose	E	Magnesium Hydroxide	E	Phosphoric Acid 10%	E				
Furfural	U	Magnesium Nitrate	E	Phosphoric Acid 25 - 50%	E				
Gallic Acid	E	Magnesium Sulfate	E	Phosphoric Acid 50 - 85%	E				
Gas Coke Oven	E	Maleic Acid	E	Phosphorous Yellow	E				
Gas Natural	E	Malic Acid	E	Phosphorous Pentoxide	E				
Gas Manufactured	U	Meats	**	Phosphorous Trichloride	U				
Gasoline	E	Mercury	E	Photographic Solutions	E				
Gold Cyanide Electroplating	**	Mercuric Chloride	E	Picric Acid	U				
Glauber's Salt	**	Mercuric Cycnide	E	Plating Solutions, Brass	**				
Glucose	E	Mercurous Nitrate	E	Plating Solutions, Cadmium	**				
Glycerine	E	Methane	E	Plating Solutions Chrome 25%	**				
		Methyl Alcohol	E	Plating Solutions Chrome 40%	**				

E = Excellent		G = Good		S = Satisfactory		U = Unsatisfactory		**Not Tested	
Chemical			Chemical			Chemical			
Plating Solutions Copper	**	Soap Solutions	E	Sulfuric Acid 70%	E				
Plating Solutions Gold	**	Sodium Acetate	E	Sulfuric Acid 80%	E				
Plating Solutions Iron	**	Sodium Benzoate	E	Sulfuric Acid 90%	E				
Plating Solutions Lead	**	Sodium Bicarbonate	E	Sulfuric Acid 95%	E				
Plating Solutions Nickel	**	Sodium Bichromate	**	Sulfuric Acid 100%	U				
Plating Solutions Rhodium	**	Sodium Bisulfate	E	Sulfurous Acid	E				
Plating Solutions Silver	S	Sodium Borate	**	Sulfur Trioxide	E				
Plating Solutions Tin	**	Sodium Bisulfite	E	Steam and Air	**				
Plating Solutions Zinc	**	Sodium Bromide	E	Steam and CO2 and Air	**				
Potassium Aluminum Sulfate	**	Sodium Carbonate	E	Steam SO2 CO2 and Air	**				
Potassium Bicarbonate	E	Sodium Chlorate	E	Syrup	**				
Potassium Bichromate	E	Sodium Chloride	E	Tall Oil	E				
Potassium Borate	E	Sodium Chlorite	**	Tannic Acid	E				
Potassium Bromate	E	Sodium Citrate	**	Tanning Liquors	E				
Potassium Bromide	E	Sodium Cyanide	E	Tartaric Acid	E				
Potassium Carbonate	E	Sodium Dichromate	E	Tetraethyl Lead	E				
Potassium Chlorate Aqueous	**	Sodium Ferricyanide	E	Tetrahydrofuran	U				
Potassium Chloride	E	Sodium Ferrocyanide	E	Thionyl Chloride	U				
Potassium Chromate	**	Sodium Fluoride	**	Thread Cutting Oils	**				
Potassium Cyanide	E	Sodium Hydroxide 15%	E	Titanium Tetrachloride	E				
Potassium Dichromate	E	Sodium Hydroxide 30%	S	Toluene Toluol	U				
Potassium Ferricyanide	E	Sodium Hydroxide 70%	S	Toluene Kerosene Mixture	**				
Potassium Ferrocyanide	E	Sodium Hypochlorite	E	Tomato Juice	**				
Potassium Fluoride	E	Sodium Iodide	**	Toxaphene-Xylene	**				
Potassium Hydrate	**	Sodium Lactate	**	Tributyl Phosphate	U				
Potassium Hydroxide	E	Sodium Nitrate	E	Trichloroacetic Acid	**				
Potassium Hypochlorite	**	Sodium Nitrite	E	Trichloroethylene	U				
Potassium Iodine	**	Sodium Peroxide	**	Triethanolamine	**				
Potassium Nitrate	E	Sodium Phosphate	**	Triethylamine	**				
Potassium Oxalate	**	Sodium Sulfate	E	Trimethylpropane	E				
Potassium Perborate	E	Sodium Sulfide	E	Urea	E				
Potassium Perchlorate	E	Sodium Sulfite	E	Uric	E				
Potassium Permanganate 10%	S	Sodium Thiosulfate 20% +		Urine	E				
Potassium Persulfate	E	Acetate Acid 20%	**	Vegetable Oil	**				
Potassium Sulfate	E	Sodium Thiosulfate 4% +		Vegetable Juices	**				
Propane	E	Potassium Meta Bisulfate	**	Vinyl Acetate	U				
Propargyl Alcohol	E	Soda Ash	**	Visco 202 Crude Oil Additive	**				
Propyl Alcohol	E	Sour Crude Oil	E	Water	E				
Propylene Dichloride	U	Speculum Plating Solution	**	Water Acid Mine	E				
Pyrogallic	**	Stannic Chloride	E	Water Demineralizec	E				
Pyroligneus	**	Stannous Chloride	E	Water Distilled	E				
Rayon Coagulating Bath	E	Stearic Acid	E	Water Salt	E				
Salenic Acid Aqueous	E	Stoddard's Solvent	E	Water Sewage	E				
Salicylic Acid	E	Succinic	**	Whiskey	E				
Salicylaldehyde	**	Sulfated Detergents	**	White Liquor	E				
Sea Water	E	Sulfur	E	Wines	E				
Sauerkraut Brine	**	Sulfur Chloride	**	Xylene or Xylol	U				
Selenic Acid	E	Sulfur Dioxide Dry	E	Zinc Chloride	E				
Silicic Acid	E	Sulfur Dioxide Wet	G	Zinc Chromate	E				
Silver Bromide	**	Sulfur Oxychloride	**	Zinc Cyanide	E				
Silver Nitrate	E	Sulfuric Acid 10%	E	Zinc Molten	**				
Silver Cyanide Electroplate Sol.	S	Sulfuric Acid 30%	E	Zinc Nitrate	E				
Soaps	E	Sulfuric Acid 60%	E	Zinc Sulfate	E				