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**INITIAL WEIGHTS AND DIMENSIONS OF CORROSION
COUPONS INSTALLED IN IDMS IN AUGUST 1993 (U)**

by

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INITIAL WEIGHTS AND DIMENSIONS OF CORROSION COUPONS INSTALLED IN IDMS IN AUGUST 1993 (U)

Summary

New corrosion coupons were installed in the Feed Preparation System and the Melter/Off-Gas System of Integrated DWPf Melter System (IDMS) in August 1993. The new coupons are replacements for similar coupons which were in the IDMS since 1989 but were removed for metallurgical evaluation in April 1993. Original coupons still remain on the corrosion racks in the Melter and the Off-Gas Stack. Baseline data for the replacement coupons are described in this report.

Background

New corrosion coupons were installed in the IDMS in August 1993 as part of the continuing IDMS Materials Evaluation Program¹. This program was established to confirm the performance of Defense Waste Processing Facility (DWPf) reference materials of construction and other alternate materials. The new coupons are replacements for similar coupons which were in the IDMS since 1989 but were removed for metallurgical evaluation in April 1993^{2,3}. Coupons on the racks in the Melter and the Off-Gas Stack were not replaced. Therefore, these racks still contain the original coupons which were installed in 1989.

Replacement coupons were installed throughout the IDMS in both the Feed Preparation and the and Melter/Off-Gas systems and consisted of standard flat and U-bend specimens. Some of the coupons were welded with matching filler metal and are designated with a "W" in the coupon identification number. In order to evaluate the effect of crevice corrosion, crevice washers were used on most specimens. The following list contains the locations (see Figure 1) of the thirteen corrosion racks which were assembled and placed back into the IDMS:

Feed Preparation System

- 1a) Slurry Receipt Adjustment Tank and Slurry Mix Evaporator (SRAT/SME) - Vapor Space,
- 1b) SRAT/SME - Liquid/Vapor Zone,
- 2) SRAT/SME Condenser - Vapor Inlet,
- 3) Mercury Water Wash Tank (MWWT) - Vapor Space,
- 4a) Melter Feed Tank - Vapor Space,
- 4b) Melter Feed Tank - Liquid/Vapor Zone,

Melter/Off-Gas System

- 5) Quencher - Inlet,
- 6) Quencher - Outlet,
- 7a) Off-Gas Condensate Tank (OGCT) - Vapor Space,
- 7b) Off-Gas Condensate Tank - Liquid Zone,
- 8) Off-Gas Condenser - Vapor Inlet,
- 9) Off-Gas Condenser - Drain,
- 10) Steam Atomized Scrubber (SAS) - Drain Line,
- 11) High Efficiency Mist Eliminator (HEME) - Inlet,
- 12) HEME - Outlet, and
- 13) High Efficiency Particulate Air (HEPA) Filter - Inlet.

Coupon Documentation

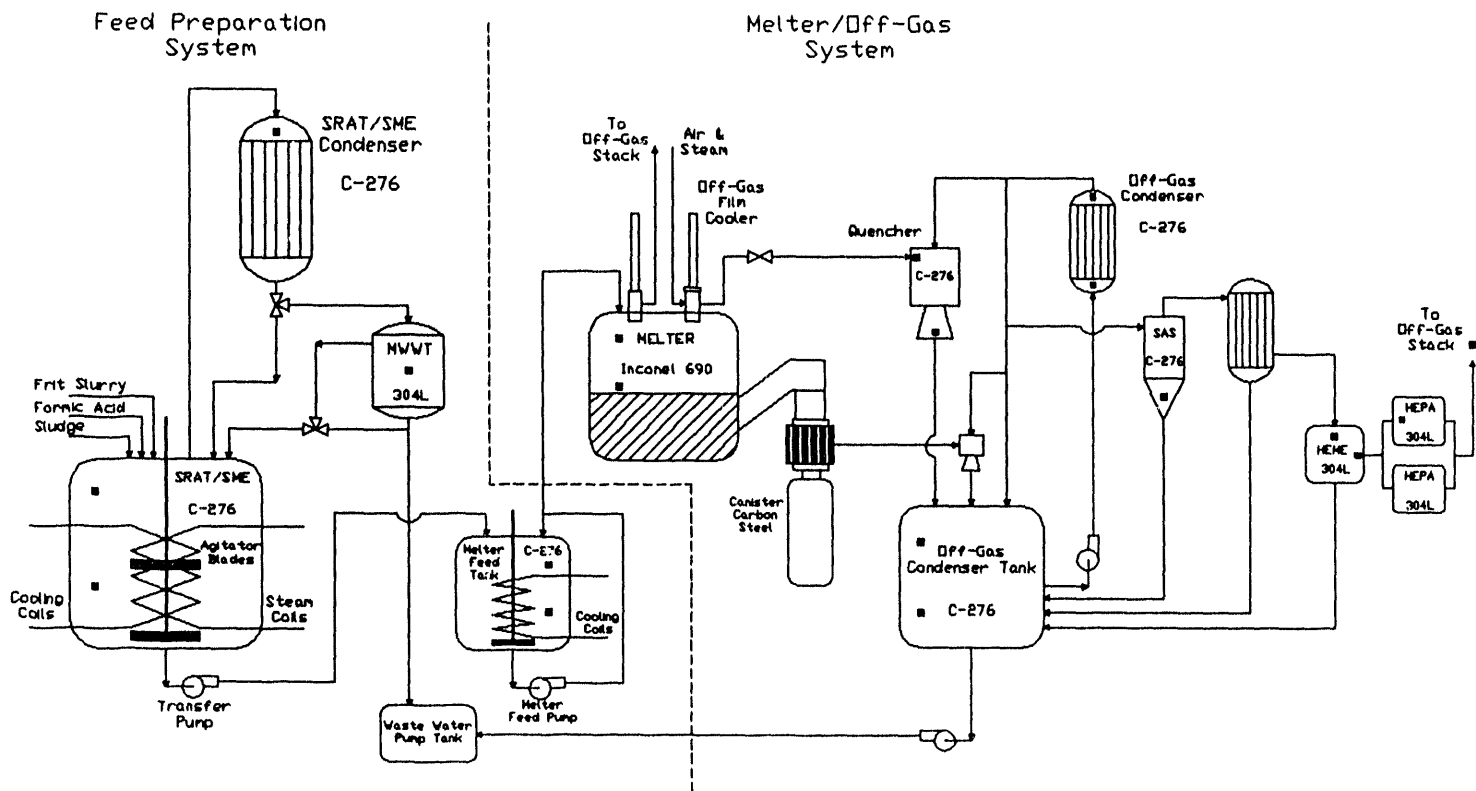
Descriptions of the coupons are presented in this report on a rack by rack basis and include the material type, dimensions, weight, and orientation of the replacement corrosion coupons. Table 1 contains the material compositions. Coupons identified with a "NM" indicate that the coupon has no markings on the coupon other than the identification number and alloy type. Coupons identified with IDMS were extra original coupons that were purchased before 1989 but were never installed in the IDMS. Coupons identified as "NEW" were purchased in 1993 and are marked with alloy type, identification number, and heat number. Documentation of the assembled corrosion racks is contained in Tables 2 through 14.

References

1. S. M. Nordwick and J. R. Zamecnik, **DWPT Task Plan IDMS Materials Inspections**, DWPTQA-89-0042, Savannah River Site, Aiken, SC 29802 (December 12, 1989).
2. S. M. Nordwick, **Equipment Engineering Division Area Metallurgical Report, IDMS Corrosion Coupons**, EED890385, Savannah River Site, Aiken, SC 29802 (March 27, 1989).
3. K. J. Imrich and C. F. Jenkins, **Final Examination Of IDMS Corrosion Coupons (U)**, WSRC-TR-93-461, Savannah River Site, Aiken, SC 29802 (September 16, 1993).

FIGURE 1

Schematic Of IDMS Showing Locations Of Corrosion Coupons And The Materials Of Construction Of The Various Process Vessels



■ - Corrosion Rack Location

Table 1
Material Compositions

Manufacturer	Material	Heat No.	Marking	Ni	Cr	Fe	W	Co	Mo	Mn	Si	P	S	C	Other
J&L Speciality	304L	E673	IDMS	8.83	18.23	69.79		0.10	0.24	1.79	0.61	0.030	0.018	0.026	N 0.086, Cu 0.250
Allegheny-Ludlum	304L	J160	New	8.11	18.26	70.18			0.30	1.86	0.56	0.320	0.002	0.020	Cu 0.30, N 0.09
Allegheny-Ludlum	316L	E616	IDMS	10.12	16.22	68.80		0.10	2.12	1.70	0.60	0.033	0.001	0.020	N 0.040, Cu 0.250
Allegheny-Ludlum	316L	H980	New	10.18	16.30	68.91			2.13	1.90	0.50	0.030	0.001	0.019	N 0.03
Eastern Stainless	317L	E309	IDMS	14.00	18.29	61.75		0.20	3.13	1.63	0.59	0.026	0.011	0.017	N 0.072, Cu 0.280
Tull Metals	317L	H708	New	13.23	18.19	62.47		0.15	3.11	1.78	0.55	0.031	0.001	0.019	Cu 0.42, N 0.047
Allegheny-Ludlum	AL6XN	E881	IDMS	23.92	20.67	47.80			6.32	0.46	0.30	0.028	0.001	0.026	N 0.230, Cu 0.250
Haynes	G-3	E788	IDMS	44.11	22.46	19.84	0.80	1.77	7.49	0.77	0.49	0.019	0.002	0.005	Cu 1.880, Cb+Ta 0.360
INCO	671	G620		53.92	45.50	0.13				0.02	0.09		0.003	0.050	Ti 0.290
Haynes	C-22	F120	IDMS	56.71	21.10	4.10	2.90	0.93	13.80	0.28	0.03	0.008	0.002	0.002	V 0.140
Haynes	C-22	H157	New	56.34	21.30	4.40	2.90	1.14	13.40	0.29	0.05	0.010	0.002	0.004	V 0.170
Haynes	C-276	F266	IDMS	57.26	15.54	5.77	3.80	1.33	15.63	0.45	0.03	0.015	0.002	0.003	V 0.170
Haynes	C-276	J018	New	58.67	15.26	5.35	3.34	1.35	15.39	0.48	0.02	0.007	0.002	0.003	V 0.130
Teledyne-Allvac	Allcorr	D352	IDMS	57.99	30.93	0.11		0.01	9.97	0.01	0.02	0.005	0.001	0.030	Al 0.230, B 0.002, Zr 0.010, V 0.010, Cb+Ta 0.420, Ti 0.240
INCO	690	C094	IDMS	59.40	29.10	10.48				0.42	0.30		0.003	0.010	Ti 0.290
INCO	625	E340	IDMS	60.87	21.14	4.49			8.52	0.06	0.06	0.004	0.001	0.010	Cb+Ta 3.40, Ti 0.240 Al 0.20
Duriron	CW7M	E164	New	61.52	18.79	1.09			17.51	0.59	0.48	0.007	0.005	0.009	
Haynes	556	H148	New	21.82	21.78	31.35	2.20	18.25	2.92	0.97	0.41	0.009	0.002	0.100	Al 0.190, B 0.002
Haynes	8727	No Heat No.	Old No Marking	42.49	28.76	2.31	0.10	24.35	0.05	0.38	1.50	0.005	0.001	0.057	
Haynes	25	D823	IDMS	9.84	20.25	2.25	15.15	50.39	0.34	1.45	0.21	0.005	0.002	0.110	
Stellite (Cast)	ST6	F905	New	2.62	27.63	2.92	4.07	59.58	0.41	0.27	1.07			1.430	
Stellite (Wrought)	6B	J256	New	2.29	30.25	0.87	3.78	58.34	0.91	1.39	1.07			1.100	
Stellite	6BLC	No Heat No.	Old No Marking	2.73	30.35	0.10	3.98	60.35	0.10	1.70	0.58	0.011	0.004	0.100	

Manufacturer	Material	Al2O3	SiO2	MgO	Na2O	CaO	Fe2O3	Cr2O3	K2O
Bolt Technical Ceramics	Alumina	99.70	0.11	0.22	0.008	0.005	0.060	0.007	0.00

- (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- (OLD NM) = Coupons purchased in 1992 and marked with only alloy and coupon numbers.
- (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

Table 2
SRAT/SME - Vapor Space and Liquid/Vapor Zone

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Vapor	HC22W	8 (NEW)	23.0491	1.9871	0.7511	0.3742	0.1208
Vapor	HC276W	7 (NEW)	22.7859	1.9857	0.7501	0.3729	0.1180
Vapor	ST6B	4 (NEW)	22.6566	2.0017	0.7558	0.3701	0.1210
Vapor	ST6	5 (NEW)	24.1676	2.0248	0.7529	0.3762	0.1298
Vapor	HA25W	8 (IDMS)	11.4579	1.0080	0.7700	0.3710	0.1170
Vapor	CW7MW	6 (NEW)	24.1838	1.9892	0.7527	0.3751	0.1284
Vapor	ALUMINA 203	1 (NEW)	12.8934	1.9737	0.7984	0.3766	0.1434
Vapor	ULTIMET	1 (NEW)	23.8085	1.6622	0.8731	0.3758	0.1394
Liquid/Vapor	HC22W	9 (NEW)	23.1567	1.9913	0.7556	0.3726	0.1196
Liquid/Vapor	HC276W	8 (NEW)	23.7500	1.9935	0.7505	0.3729	0.1211
Liquid/Vapor	ST6B	5 (NEW)	22.4580	1.9981	0.7532	0.3694	0.1208
Liquid/Vapor	ST6	6 (NEW)	24.0479	2.0109	0.7506	0.3705	0.1319
Liquid/Vapor	HA25W	9 (IDMS)	11.6096	1.0090	0.7690	0.3720	0.1200
Liquid/Vapor	CW7MW	7 (NEW)	23.4491	1.9946	0.7527	0.3762	0.1258
Liquid/Vapor	ALUMINA 203	2 (NEW)	12.4921	1.9648	0.7801	0.3793	0.1396
Liquid/Vapor	ULTIMET	2 (NEW)	21.8920	1.5209	0.8710	0.3750	0.1358

- * W = Welded Coupon
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.

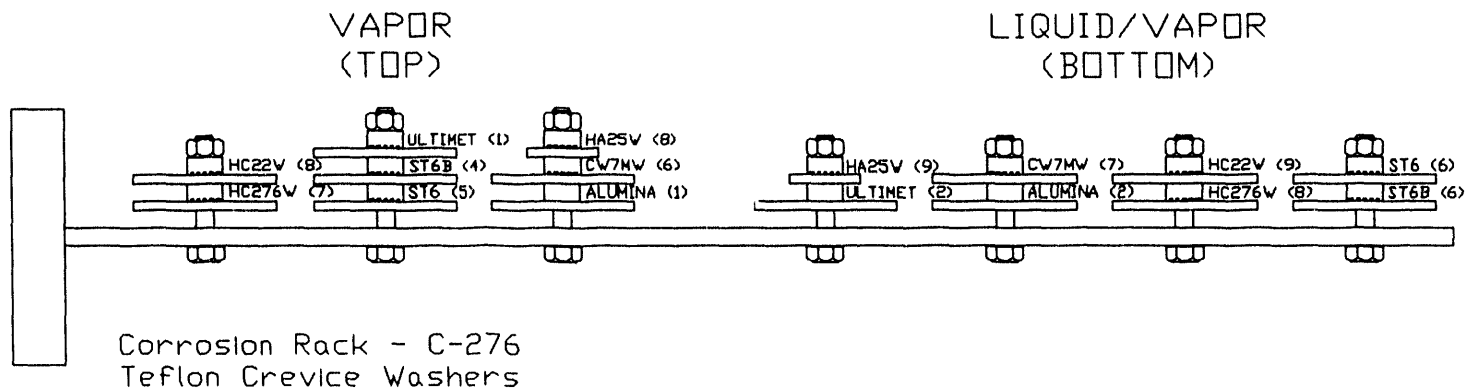
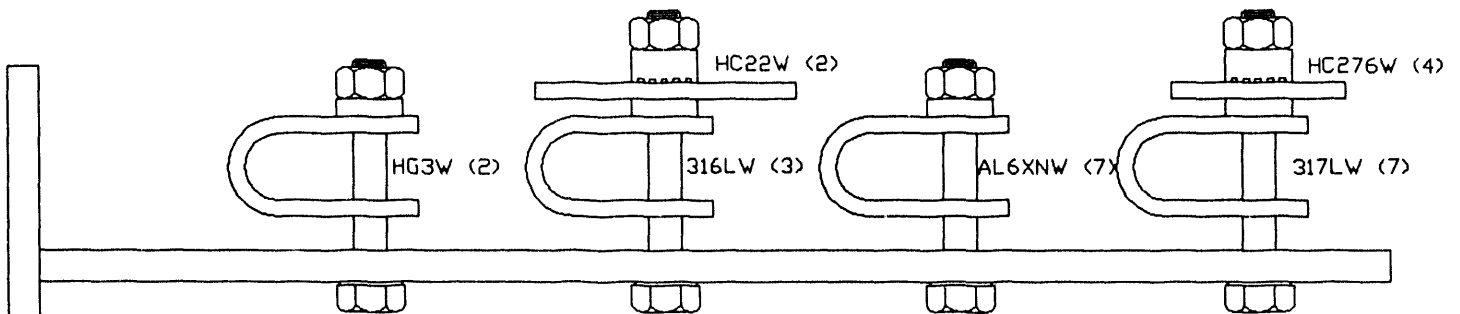


Table 3
 SRAT/SME Condenser

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
---	HG3W (U)	2 (IDMS)	32.7324	3.2200	0.7590	0.3840	0.1180
---	316LW (U)	3 (IDMS)	28.9368	3.2200	0.7570	0.3860	0.1110
---	AL6XNW (U)	7 (IDMS)	30.3433	3.2200	0.7540	0.3870	0.1130
---	317LW (U)	7 (IDMS)	24.5447	3.1250	0.7620	0.3890	0.0930
---	HC22W	2 (NEW)	23.4248	1.9943	0.7537	0.3730	0.1191
---	HC276W	4 (IDMS)	9.8974	1.0060	0.7760	0.3886	0.1050

- * (U) = Stressed U-Bend Coupon
- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.



Corrosion Rack - C-276
 Teflon Crevice Washers

Table 4
Mercury Water Wash Tank - Vapor Space

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
--	316LW	1 (NEW)	19.9994	1.9968	0.7557	0.3712	0.1141
--	304LW	1 (NEW)	19.3236	1.9971	0.7553	0.3712	0.1082
--	AL6XNW	9 (IDMS)	20.8441	2.0000	0.7630	0.3890	0.1140
--	HC276W	4 (NEW)	23.8781	1.9907	0.7545	0.3737	0.1207
--	ST6B	1 (NEW)	22.7116	2.0012	0.7543	0.3692	0.1220

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

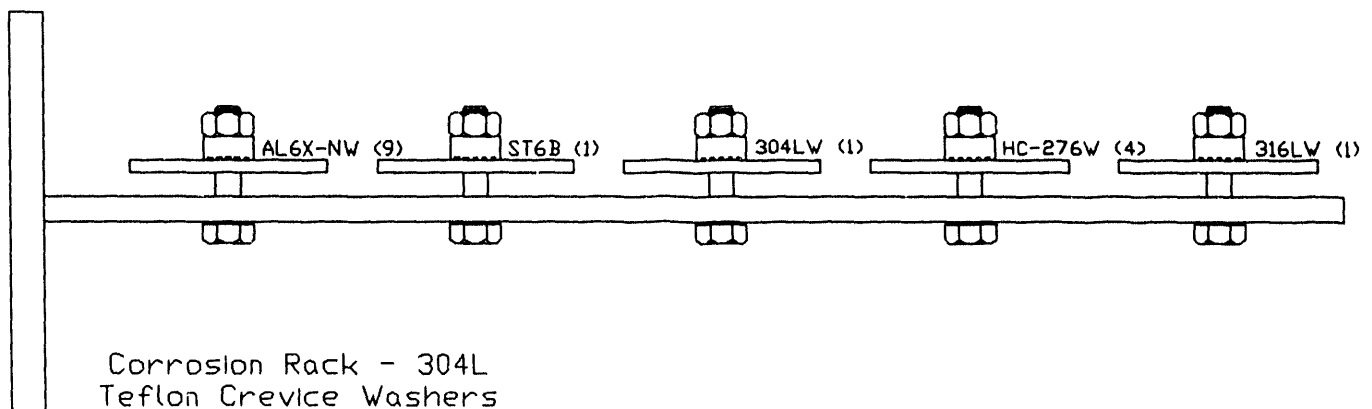


Table 5
Melter Feed Tank - Vapor Space and Liquid/Vapor Zone

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Vapor	HC22W	6 (NEW)	23.1114	1.9940	0.7518	0.3705	0.1166
Vapor	HC276W	5 (NEW)	23.1190	1.9913	0.7539	0.3739	0.1210
Vapor	ST6B	3 (NEW)	22.5683	2.0044	0.7545	0.3684	0.1210
Vapor	ST6	7 (NEW)	25.3211	2.0229	0.7505	0.3755	0.1335
Vapor	HA25W	7 (IDMS)	11.2788	1.0090	0.7730	0.3770	0.1170
Vapor	CW7MW	4 (NEW)	23.9968	1.9855	0.7545	0.3749	0.1296
Vapor	ALUMINA 203	3 (NEW)	12.4202	1.9597	0.7950	0.3787	0.1411
Liquid/Vapor	HC22W	7 (NEW)	23.0969	1.9854	0.7497	0.3735	0.1230
Liquid/Vapor	HC276W	6 (NEW)	22.9075	1.9895	0.7507	0.3724	0.1185
Liquid/Vapor	ST6B	2 (NEW)	22.6839	2.0024	0.7561	0.3688	0.1212
Liquid/Vapor	ST6	2 (NEW)	22.9679	2.0057	0.7509	0.3769	0.1240
Liquid/Vapor	HA25W	6 (IDMS)	10.7947	0.9960	0.7530	0.3760	0.1170
Liquid/Vapor	CW7MW	5 (NEW)	24.6706	1.9913	0.7525	0.3746	0.1321
Liquid/Vapor	ALUMINA 203	4 (NEW)	12.8279	1.9802	0.7864	0.3788	0.1408

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

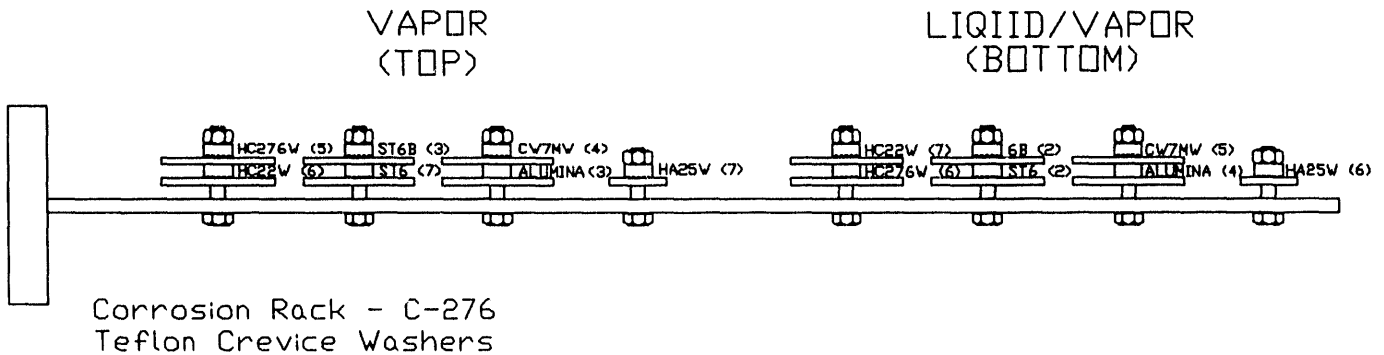


Table 6
Quencher - Inlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Inlet	HA556	1 (NEW)	9.0770	1.0048	0.7529	0.3745	0.1064
Inlet	I625W	3 (IDMS)	21.5344	2.0150	0.7650	0.3860	0.1120
Inlet	CW7MW	1 (NEW)	24.2023	1.9902	0.7477	0.3747	0.1295
Inlet	HC22W	3 (NEW)	23.4605	1.9930	0.7521	0.3740	0.1218
Inlet	I 671	3 (OLD NM)	10.5069	1.9410	0.7420	0.3750	0.0610
Inlet	I690W	1 (IDMS)	19.5600	2.0120	0.7540	0.3880	0.1080
Inlet	ALLCORRW	7 (IDMS)	15.1856	1.9980	0.7660	0.3870	0.0820
Inlet	HC276W	11 (NEW)	23.6552	1.9875	0.7540	0.3729	0.1211
Inlet	6BLC	1 (OLD NM)	11.9407	1.5020	0.7540	0.3750	0.0920
Inlet	8727	1 (OLD NM)	12.5607	1.5010	0.7600	0.3700	0.0980

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
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- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

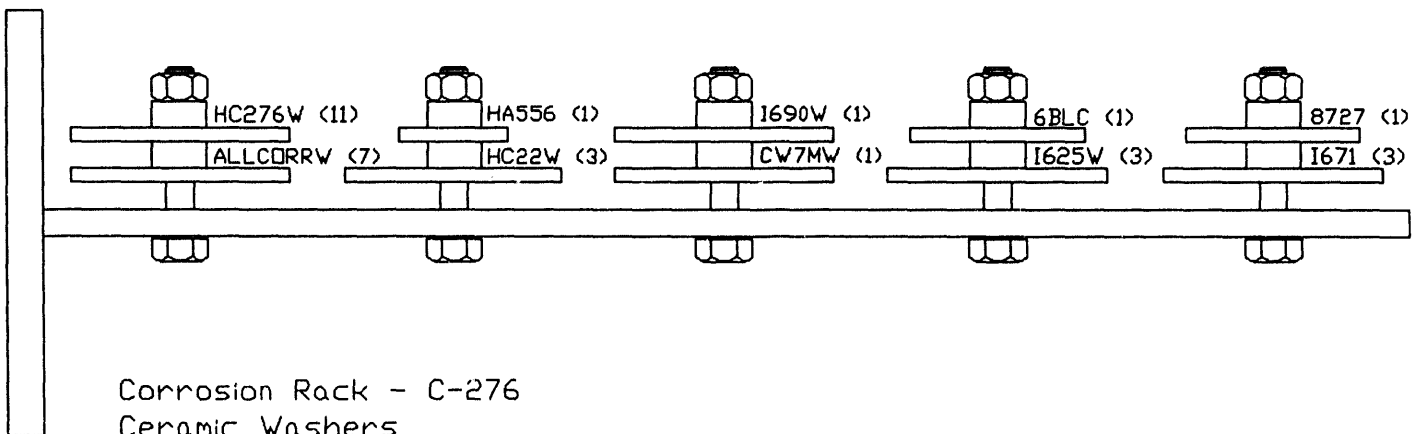


Table 7
Quencher - Outlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Outlet	ALLCORRW	5 (IDMS)	16.1070	1.9950	0.7690	0.3890	0.0860
Outlet	ALLCORRW	6 (IDMS)	17.2929	2.0020	0.7690	0.3860	0.0910
Outlet	HC276W	2 (NEW)	23.9691	1.9930	0.7529	0.3732	0.1192
Outlet	HC276W	3 (NEW)	23.7823	1.9889	0.7506	0.3739	0.1207
Outlet	HC22W	4 (NEW)	23.2729	1.9904	0.7548	0.3736	0.1205
Outlet	HC22W	5 (NEW)	22.9624	1.9905	0.7527	0.3728	0.1228
Outlet	I625W	4 (IDMS)	21.0766	2.0070	0.7570	0.3860	0.1100
Outlet	I625W	5 (IDMS)	21.6151	2.0150	0.7680	0.3870	0.1120
Outlet	CW7MW	2 (NEW)	24.9789	1.9952	0.7543	0.3738	0.1324
Outlet	CW7MW	3 (NEW)	23.9800	1.9981	0.7558	0.3752	0.1290

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
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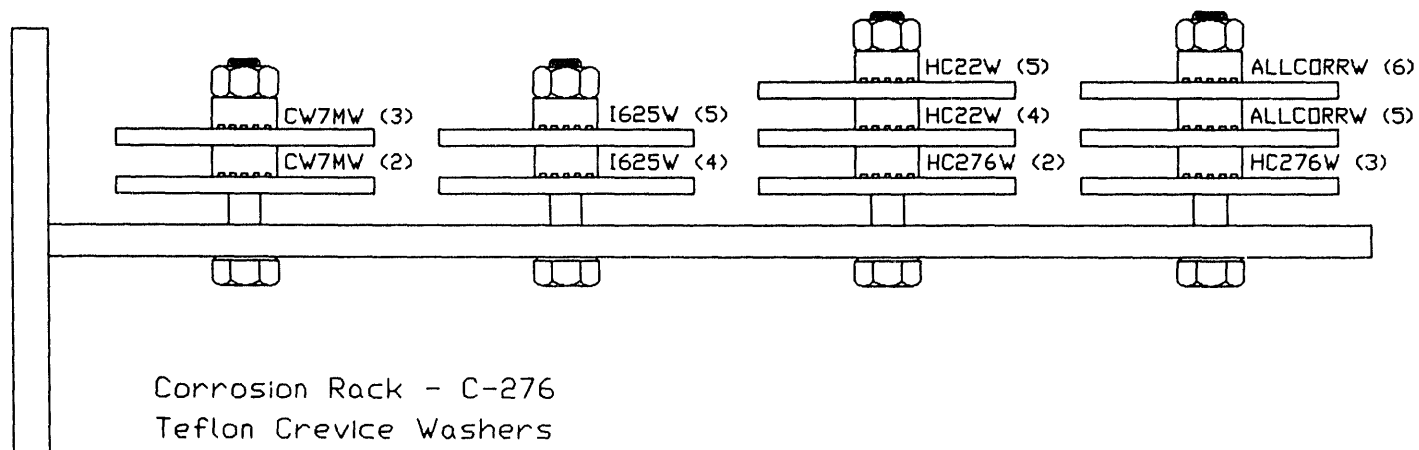


Table 8

Off-Gas Condensate Tank - Vapor Space and Liquid Zone

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Vapor	HC22W	10 (NEW)	22.9969	1.9923	0.7534	0.3735	0.1215
Vapor	HC276W	9 (NEW)	23.9352	1.9910	0.7513	0.3720	0.1226
Vapor	CW7MW	8 (NEW)	24.2796	1.9930	0.7528	0.3761	0.1292
Vapor	ST6	3 (NEW)	22.4380	1.9787	0.7526	0.3768	0.1237
Vapor	HA25W	7 (IDMS)	24.6412	1.9960	0.7410	0.3840	0.1220
Vapor	ST6B	6 (NEW)	22.5364	2.0033	0.7554	0.3692	0.1217
Liquid	HC22W	11 (NEW)	22.9261	1.9878	0.7560	0.3733	0.1208
Liquid	HC276W	10 (NEW)	23.4338	1.9960	0.7542	0.3720	0.1191
Liquid	CW7MW	9 (NEW)	23.3633	1.9957	0.7502	0.3757	0.1239
Liquid	ST6	4 (NEW)	24.6089	2.0137	0.7525	0.3770	0.1314
Liquid	HA25W	8 (IDMS)	24.4678	1.9730	0.7530	0.3820	0.1220
Liquid	ST6B	7 (NEW)	22.5504	2.0000	0.7544	0.3724	0.1213

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

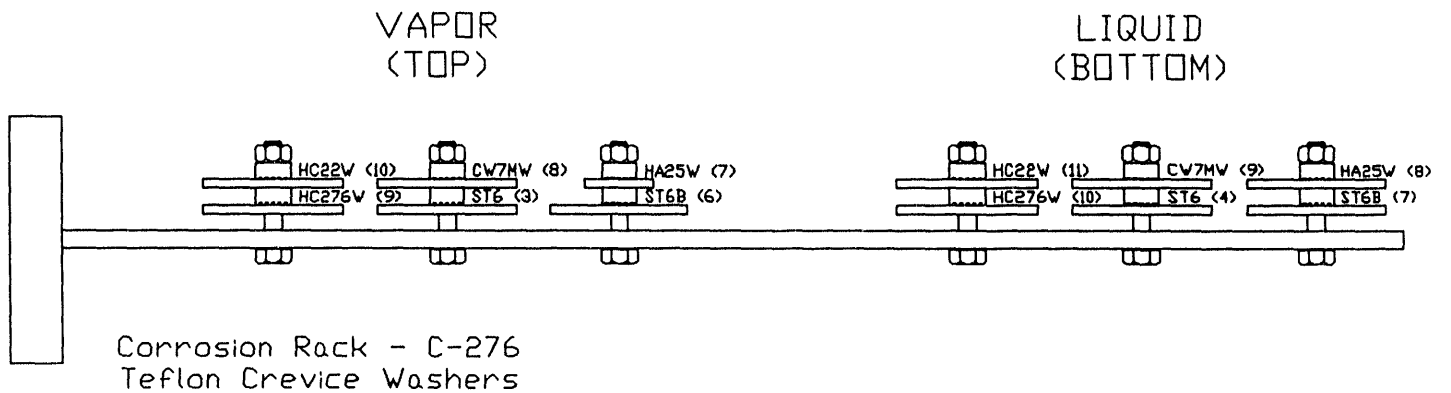


Table 9
Off-Gas Condenser - Vapor Inlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Inlet	HC276W	18 (IDMS)	21.6739	2.0000	0.7630	0.3910	0.1100
Inlet	317LW (U)	6 (IDMS)	24.3400	3.125	0.725	0.389	0.093
Inlet	HC22W	15 (IDMS)	21.4880	1.9030	0.7570	0.3910	0.1140
Inlet	AL6XNW (U)	6 (IDMS)	30.2042	0.7520	0.3880	0.1160	

- * (U) = Stressed U-Bend Coupon
- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.

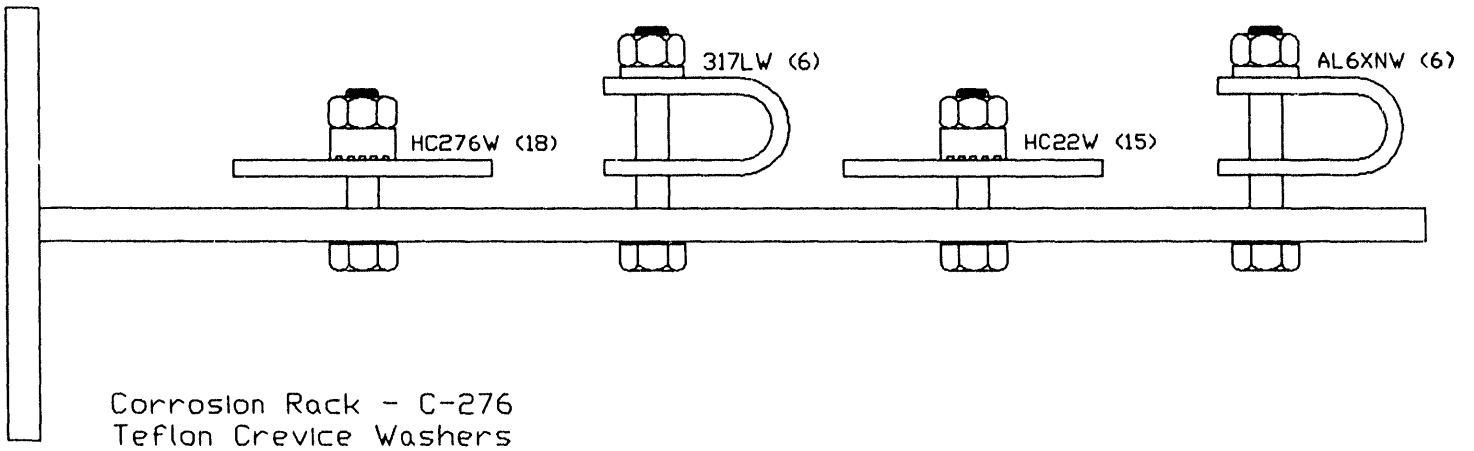
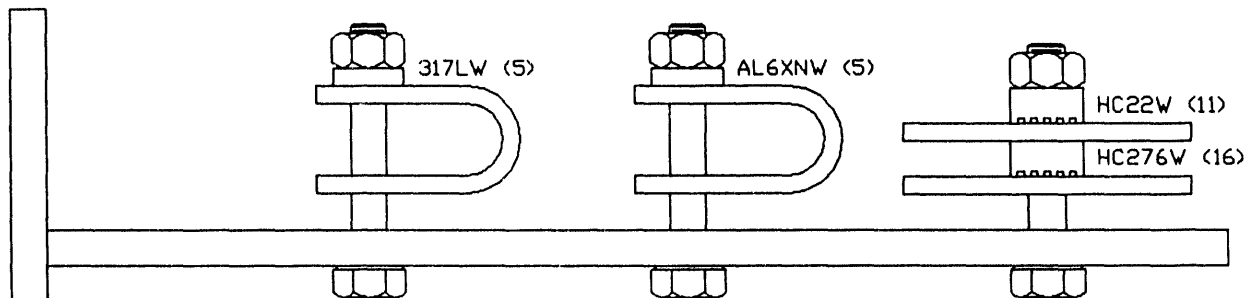


Table 10
Off-Gas Condenser - Drain

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Drain	HC276W	16 (IDMS)	21.7313	1.9960	0.7700	0.3890	0.1120
Drain	317LW (U)	5 (IDMS)	23.9616	3.1250	0.7590	0.3900	0.0910
Drain	HC22W	11 (IDMS)	22.3514	2.0010	0.7640	0.3880	0.1160
Drain	AL6XNW (U)	5 (IDMS)	30.7225	0.7570	0.3840	0.1180	

- * (U) = Stressed U-Bend Coupon
- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.



Corrosion Rack - C-276
 Teflon Crevice Washers

Table 11
Steam Atomized Scrubber - Drain Line

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
---	ST6	1 (NEW)	21.1700	1.9741	0.7524	0.3771	0.1179
---	ALLCORRW	4 (IDMS)	15.5776	2.0030	0.7680	0.3880	0.0850
---	6B	8 (OLD NM)	18.1784	1.4980	0.7540	0.3700	0.1310
---	HC22W	1 (NEW)	23.7065	2.0030	0.7550	0.3739	0.1231
---	HC276W	2 (IDMS)	9.5544	1.0100	0.7680	0.3880	0.1020

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (OLD NM) = Coupons purchased in 1992 and marked with only alloy and coupon numbers.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

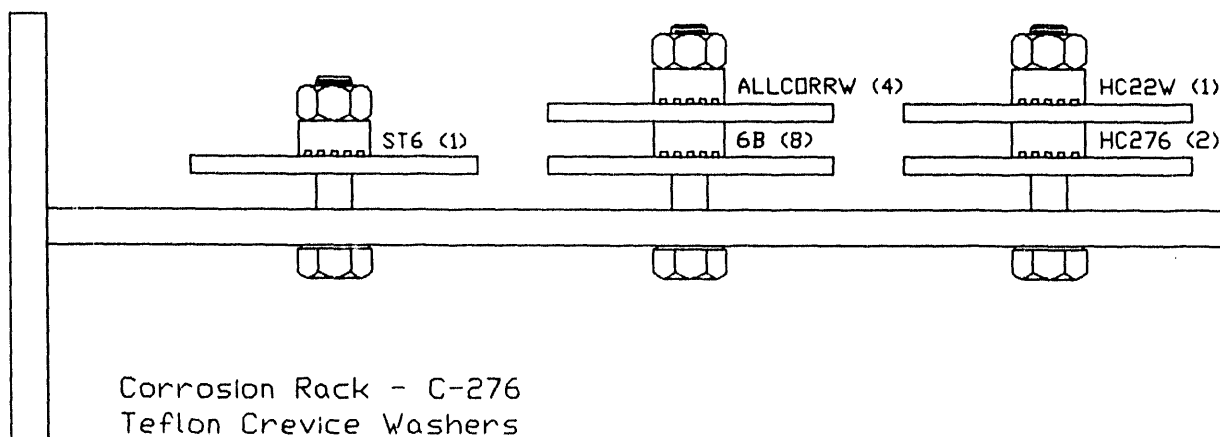


Table 12
High Efficiency Mist Eliminator - Inlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Inlet	AL6XNW	8 (IDMS)	19.8633	2.0010	0.7650	0.3860	0.1140
Inlet	HC276W	1 (NEW)	23.2942	1.9912	0.7517	0.3737	0.1199
Inlet	316LW (U)	4 (IDMS)	29.1366	3.2250	0.7540	0.3890	0.1110
Inlet	304LW (U)	3 (IDMS)	29.1017	3.2200	0.7610	0.3890	0.1120

- * (U) = Stressed U-Bend Coupon
- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

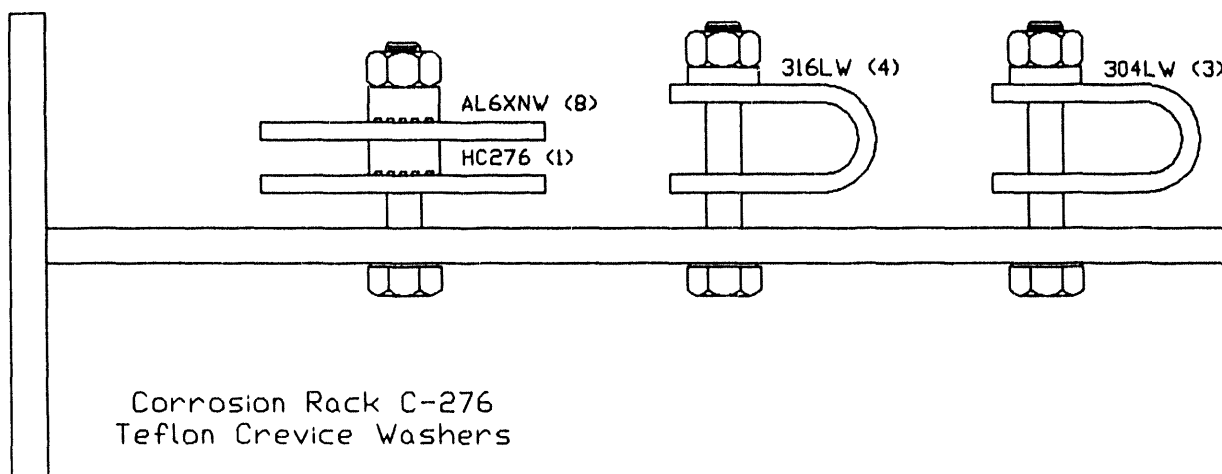


Table 13

High Efficiency Mist Eliminator - Outlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Outlet	317LW	3 (IDMS)	18.7550	1.9930	0.7620	0.3870	0.1040
Outlet	AL6XNW	6 (IDMS)	20.0324	2.0020	0.7570	0.3890	0.1140
Outlet	316LW	2 (NEW)	19.6844	1.9946	0.7550	0.3714	0.1123
Outlet	304LW	2 (NEW)	19.4729	1.9952	0.7552	0.3709	0.1120

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.

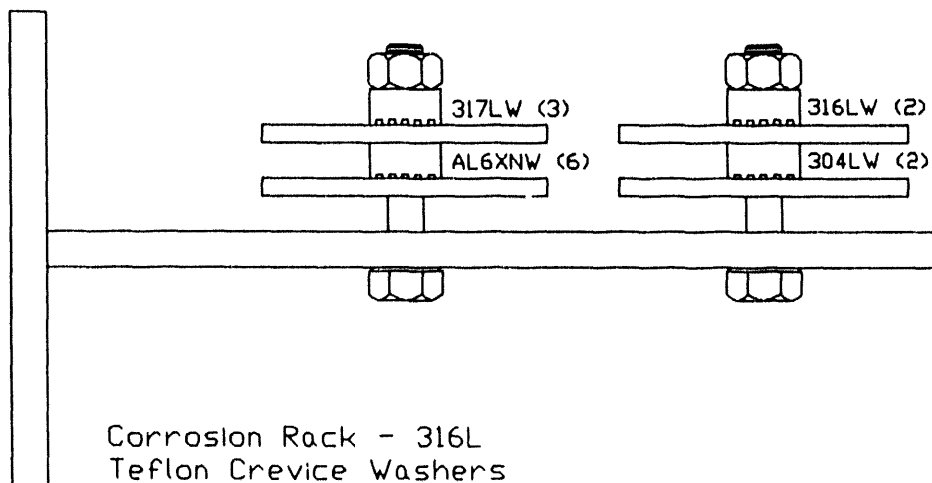
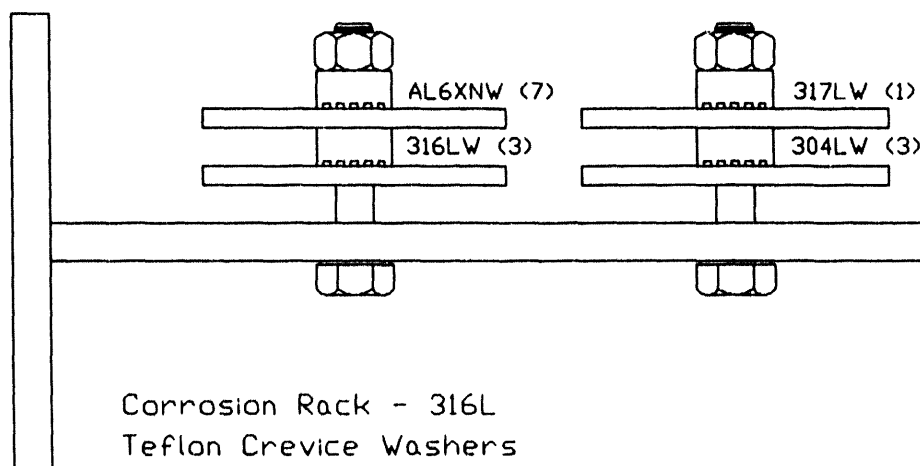


Table 14
 HEPA - Inlet

Coupon Location	Material Type	Coupon No.	Weight (g)	Length (in)	Width (in)	Hole Dia. (in)	Thickness (in)
Inlet	317LW	1 (NEW)	20.1253	1.9947	0.7577	0.3730	0.1165
Inlet	AL6XNW	7 (IDMS)	20.0355	2.0020	0.7600	0.3660	0.1130
Inlet	316LW	3 (NEW)	19.8142	1.9981	0.7563	0.3724	0.1138
Inlet	304LW	3 (NEW)	18.7561	1.9929	0.7535	0.3722	0.1117

- * W = Welded Coupon
- * (IDMS) = Coupons purchased before 1989 and marked with alloy, coupon number and IDMS.
- * (New) = Coupons purchased May, 1993 and marked with alloy, heat no. and coupon number.



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