



DOW CHEMICAL U.S.A.

MIDLAND, MICHIGAN 48667

January 6, 1989

INSULATION IDENTIFICATION FOR MICHIGAN DIVISION

The attached list of costs for identification of insulation in various plants within the Michigan Division, Midland site, is for piping and equipment only and does not take into account building materials such as transite siding, floor tile etc. nor does it in any way quantify amounts of insulation.

Factors used in obtaining the costs for each building was taken from actual projects that has been completed within the Michigan Division.

Identification would quantify lengths, sizes, and quantities of insulation which could be used for competitive bidding and monitoring.

Because purchases of friable asbestos insulation was reduced or eliminated in approximately 1972, buildings that were constructed after this date were not included in this list. However, asbestos was still used after this date in applications such as gaskets and insulation jacketing but these are considered as non-friable.

Buildings built after 1972 should still be considered for identification.

Jerry Schaar

Tom Sponseller

ST0035228

Estimated cost of insulation identification for buildings 47 thru 899 and 1602 thru 1804	\$ 500,000
Project management	50,000
Industrial Hygiene services	40,000
Miscellaneous	10,000
Estimated project total	\$600,000

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INSULATION IDENTIFICATION MICHIGAN DIVISION

BUILDING NO.	SQ. FT.	FLOOR SQ. FT.	CU. FT. IN M	COST FOR IDENTIFICATION	BUILDING USE	REMARKS
47	49000	147400	1769	5,300	OFFICE	
49	59560	108840	1741	5,200	OFFICE & SHOP	
52	17554	40634	488	2,500	RESEARCH	
107	19775	28550	343		MANUFACTURING	1989 DEMO LIST
141	38200	45300	906	300	WAREHOUSE	
146	14626	17186	344	3,500	SHOP	99% ASBESTOS FREE
172	30940	48750	780	5,500	MANUFACTURING	
180	19000	19000	304	300	SHOP	
181	28500	62900	1132		MANUFACTURING	IDENTIFIED & MARKED
184	39300	39300	707	300	WAREHOUSE	
191	16000	16000	192	100	WAREHOUSE	
202	4216	4216	67		TANK FARM	1989 DEMO LIST
209	7790	7790	125		SHOP	ASBESTOS FREE
237	15000	15000	240	100	SHOP	
244	26900	31000	496	10,000	MANUFACTURING	75% ASBESTOS FREE
251	4800	18600	298	300	UTILITIES	
258	12100	16600	232	700	OFFICE	
262	5100	18300	220		MANUFACTURING	1989 DEMO LIST
273	55500	55500	777	300	WAREHOUSE	
290	21785	72585	1016	20,320	MANUFACTURING	50% ASBESTOS FREE
294	25500	50500	606	1,800	OFFICE	
297	4925	11225	135		MANUFACTURING	ASBESTOS FREE
298	14360	19560	235	1,200	RESEARCH	
299	22710	27520	330	2,300	MANUFACTURING	
304	25900	27000	378	2,600	MANUFACTURING	
313	22165	22165	355	200	WAREHOUSE	
318	2350	2350	28		UTILITIES	1989 DEMO LIST
322	1290	1290	13	100	UTILITIES	
327	13700	15300	245	300	SHOP	
339	1600	3200	32	100	MANUFACTURING	
353	16300	24160	387	2,700	MANUFACTURING	50% ASBESTOS FREE
354	16945	32945	395	2,000	RESEARCH	
356	10500	10500	168	500	WAREHOUSE	
363	22000	22900	458	3,270	MANUFACTURING	

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366	52400	54400	1360	WAREHOUSE	1989 DEMO LIST
369	11860	14700	900	RESEARCH	
372	4480	11980	268	MANUFACTURING	INCLUDES TANK FARM
374	59828	179648	2156	MANUFACTURING	
388	2400	2400	24	SHOP	
398	1280	1280	13	UTILITIES	
409	1500	1500	15	OFFICE	
414	30980	33700	539	MANUFACTURING	
427	100	100	1	UTILITIES	
428	9482	9482	133	SHOP	
433	190800	344400	4133	MANUFACTURING	
433A	40300	88160	1058	MANUFACTURING	
433B	37700	99200	1090	MANUFACTURING	
433C	34000	124500	1494	MANUFACTURING	
437	1600	1600	16	UTILITIES	
438	39476	62533	750	RESEARCH	IDENTIFIED & MARKED
444	8000	8000	112	SHOP	ASBESTOS FREE
445	5800	5800	81	SHOP	
446	4000	4000	56	SHOP	
451	4000	4000	56	WAREHOUSE	
458	71550	72400	1014	MANUFACTURING	
462	24000	27480	445	WAREHOUSE	
464	30000	60000	720	SHOP	90% IDENTIFIED
465	14400	14400	202	WAREHOUSE	
466	1000	1000	10	UTILITIES	
467	575	575	6	UTILITIES	
475	670	670	7	UTILITIES	ASBESTOS FREE
477	12350	23380	281	RESEARCH	
489	42000	73800	886	MANUFACTURING	INCLUDES TANK FARM
492	59132	59132	828	WAREHOUSE	
493	6737	6737	94	SHOP	
494	4240	4240	68	WAREHOUSE	
496	2100	2100	21	UTILITIES	
499	34720	57720	808	UTILITIES	IDENTIFIED & MARKED
500	53720	111840	3223	UTILITIES	ON DEMOLITION LIST
502	540	540	5	TANK FARM	

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INSULATION IDENTIFICATION MICHIGAN DIVISION

504	1300	1300	13	100	UTILITIES	
505	230	230	2	100	UTILITIES	
506	4872	4872	58	300	RESEARCH	
512	4000	4000	40	100	SHOP	
522	25	25	3	100	UTILITIES	
529	180	180	2	100	UTILITIES	
535	110	110	1	100	UTILITIES	
537	14150	14150	170		UTILITIES	ON DEMOLITION LIST
538	2040	3500	35		UTILITIES	ON DEMOLITION LIST
540	375	375	4	100	UTILITIES	
542	54000	58800	1058	300	WAREHOUSE	
547	2220	2220	22	100	UTILITIES	
552	480	480	5	100	UTILITIES	
553	6400	18400	258		MANUFACTURING	ASBESTOS FREE
554	7000	7000	98	500	MANUFACTURING	
556	320	320	3	100	MANUFACTURING	
560	3200	3200	38	100	SHOP	
561	79936	88387	1414	9,900	MANUFACTURING	
564	118800	164160	2298	16,000	MANUFACTURING	
566	13340	42300	508	1,500	OFFICE	
569	220	220	2	100	UTILITIES	
571	3540	3540	35	300	MANUFACTURING	
572	28670	28670	401		OFFICE	IDENTIFIED - NOT MARKED
574	26500	55800	670		RESEARCH	IDENTIFIED - NOT MARKED
575	820	820	8	100	UTILITIES	
576	840	840	8	100	UTILITIES	
577	975	975	10	100	UTILITIES	
578	3100	3750	45	300	MANUFACTURING	
579	10000	10000	100	700	TANK FARM	
580				100		
581	6000	6000	60	400	TANK FARM	
582	4790	9580	115	800	MANUFACTURING	
584	500	500	5	100	MANUFACTURING	
586	7325	10326	165	800	RESEARCH	
587	1000	1280	13	100	RESEARCH	
588	1380	3400	41	200	RESEARCH	

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INSULATION IDENTIFICATION MICHIGAN DIVISION

589A	580	580	580	6	100	RESEARCH	
589	1200	2000	2000	20	100	TANK FARM	
590	3600	7200	7200	86	1,700	TANK FARM	
591	9600	19200	19200	269	5,300	MANUFACTURING	
593	94800	94800	94800	2275	2,300	SHOP	IDENTIFIED - NOT MARKED
597	7957	6507	6507	78	500	MANUFACTURING	
598	185	185	185	2	100	MANUFACTURING	
599	1200	1200	1200	12	100	TANK FARM	
600	3880	3880	3880	47	100	WAREHOUSE	
601	3880	3880	3880	47	100	WAREHOUSE	
602	3880	3880	3880	47	100	WAREHOUSE	
603	3880	3880	3880	47	100	WAREHOUSE	
604	280	280	280	3	100	RESEARCH	
605	224	224	224	2	100	MANUFACTURING	
607	18052	36104	36104	433	1,300	OFFICE	
610	4000	4000	4000	48	100	WAREHOUSE	
613	1280	1280	1280	13	100	OFFICE	
616	150	150	150	2	100	UTILITIES	
623	2400	2400	2400	34	100	WAREHOUSE	
627	6480	7230	7230	101	500	RESEARCH	
628	5275	6050	6050	73		OFFICE	1989 DEMO LIST
629	960	100	100	100	100	UTILITIES	
630	4000	4000	4000	56	100	WAREHOUSE	
632	752	752	752	8	100	UTILITIES	
633	12680	25360	25360	304	900	OFFICE	
638	4800	4800	4800	48	100	MANUFACTURING	
639	8427	18185	18185	218	1,000	RESEARCH	
649	36008	52908	52908	847		MANUFACTURING	ASBESTOS FREE
651	3200	3200	3200	454	200	WAREHOUSE	
652	160	200	200	2	100	UTILITIES	
657	41000	41000	41000	574	2,800	RESEARCH	
658	12160	46120	46120	553	3,900	MANUFACTURING	
659	2000	2000	2000	24000	100	SHOP	
670	600	600	600	6	100	MANUFACTURING	
672A	6400	7410	7410	102	300	OFFICE	
673	4000	4000	4000	48	100	WAREHOUSE	

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INSULATION IDENTIFICATION MICHIGAN DIVISION

675	430	430	4	100	UTILITIES	
677	14000	28350	340	200	RESEARCH	
678	3180	6360	76	200	OFFICE	
680	3180	5110	61	300	RESEARCH	
681	4800	4800	58	300	RESEARCH	
684	5050	15150	182	1,000	RESEARCH	
686	28800	60600	848	6,000	MANUFACTURING	
690	33600	47200	566	200	OFFICE	
695	440	440	4	100	UTILITIES	
697	31900	31900	510	200	WAREHOUSE	
702	18400	18400	221	700	SHOP & OFFICE	
703	7200	7200	115	100	UTILITIES	
706	44998	77588	931	18,000	MANUFACTURING	
707	264	264	3	100	UTILITIES	
708	4800	4800	67	300	RESEARCH	
709	264	264	3	100	RESEARCH	
711	800	800	8	400	OFFICE	
712	60	60	1	100	UTILITIES	
713	190	190	2	100	UTILITIES	
719	36822	42022	588	4,200	MANUFACTURING	
721	1392	1392	22		UTILITIES	
726	3270	3270	52	100	UTILITIES	
727	6770	677	95	1,800	TANK FARM	
728	265	265	3	100	MANUFACTURING	
730	1500	1868	22	400	MANUFACTURING	
731	12000	12000	192	100	WAREHOUSE	
732	4540	4540	64	300	RESEARCH	
734	16112	27543	275	1,400	RESEARCH	
738	228	228	2	100	MANUFACTURING	
739	625	625	13	100	UTILITIES	
741	790	1580	16	100	UTILITIES	
743	25582	27762	389	7,400	MANUFACTURING	
746	8730	8730	122	600	RESEARCH	
755	1000	1000	12	100	MANUFACTURING	
757	135	135	1	100	UTILITIES	
758	3200	3200	51	100	WAREHOUSE	

DEMO LIST

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INSULATION IDENTIFICATION MICHIGAN DIVISION

759	8975	8975	126	200	SHOP	
766	680	680	7	200	MANUFACTURING	
767	4830	4830	58	100	SHOP	
768	11915	23830	286	1,500	RESEARCH	
769	9000	9000	108	2,300	MANUFACTURING	
770	4480	4480	63	1,200	MANUFACTURING	
771	10241	42092	505	9,600	MANUFACTURING	
772	950	950	10		UTILITIES	DEMO LIST
773	3430	3430	48	400	MANUFACTURING	
774	11316	14340	172	200	SHOP	
778	680	680	7	200	MANUFACTURING	
779	24200	24560	393	100	WAREHOUSE	
784	192	192	2	100	UTILITIES	
785	9144	16670	267		RESEARCH	DEMO LIST
787	2330	2330	33	100	WAREHOUSE	
790	8410	8410	300	5,700	MANUFACTURING	
791	674	674	7	100	UTILITIES	
792	987	987	10	100	UTILITIES	
793	1281	1281	15	100	UTILITIES	
800	6000	12000	144	500	OFFICE	
801	900	900	9	100	RESEARCH	
802	2921	6400	77	1,500	MANUFACTURING	
803	5208	6168	86	1,600	MANUFACTURING	
808	5920	5920	71	100	SHOP	
811	4800	4800	58	100	SHOP	
814	768	768	8	100	?	
815	1450	1450	17	100	OFFICE	
821	6640	6640	80	300	OFFICE	
822	3200	3200	38	100	SHOP	
824	12142	12142	146	500	OFFICE	
826	4131	4131	50	200	OFFICE & SHOP	
827	16938	21043	295		MANUFACTURING	CHECKED & IDENTIFIED
830	575	1150	12		UTILITIES	DEMO LIST
831	484	484	5	100	UTILITIES	
832	741	741	9	100	UTILITIES	
833	4400	4400	53	100	SHOP	

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INSULATION IDENTIFICATION MICHIGAN DIVISION

834	5479	5479	66	200	OFFICE	
836	8380	15594	187	3,600	MANUFACTURING	
837	5850	5850	70	100	SHOP	
838	1681	1681	17	100	UTILITIES	
843	1518	1518	15	100	UTILITIES	
845	8738	11794	142	700	RESEARCH	
846	4923	7563	91	1,800	MANUFACTURING	
847	3600	3600	43	100	WAREHOUSE	
849	8330	8339	100		WAREHOUSE	DEMO LIST
850	580	580	6	100	UTILITIES	
851	11928	11928	143		OFFICE & SHOP	DEMO LIST
853	22000	22000	352	400	SHOP	
854	1344	1344	13	100	UTILITIES	
855	2400	2400	29	100	OFFICE	
856	12000	15700	188	1,000	RESEARCH	
857	384	564	6	100	MANUFACTURING	
858	9978	22752	273	5,200	MANUFACTURING	
860	1517	1517	18		UTILITIES	DEMO LIST
862	1288	1288	15	100	UTILITIES	
865	532	772	8	200	MANUFACTURING	
867	1517	1517	15		UTILITIES	DEMO LIST
868	1800	1800	18	100	UTILITIES	
				100		
872	45740	47675	667	4,700	MANUFACTURING	
874	800	800	8	100	WAREHOUSE	
876	960	960	10	100	WAREHOUSE	
877	640	640	6	200	MANUFACTURING	
879	7947	7947	127	200	UTILITIES	
880	374	374	4	100	MANUFACTURING	
881	2358	2358	38	800	MANUFACTURING	
883	240	240	2	100	UTILITIES	
884	192	192	2	100	UTILITIES	
886	250	250	3	100	MANUFACTURING	
887	1300	1300	16	100	OFFICE	
888	600	600	6	100	UTILITIES	
891	1600	1600	19	100	UTILITIES	

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INSULATION IDENTIFICATION MICHIGAN DIVISION

892	382	382	4	100	MANUFACTURING	
893	323	323	3	100	UTILITIES	
894	132	132	1		MANUFACTURING	DEMO LIST
895	153	153	2		MANUFACTURING	DEMO LIST
896	240	240	2		MANUFACTURING	DEMO LIST
897	200	200	2	100	MANUFACTURING	
898	1029	1029	12	300	MANUFACTURING	
899	384	384	5	100	MANUFACTURING	
THE ABOVE BUILDINGS ARE PRIOR TO 1972						
PLANT PIPING NETWORK						
THE FOLLOWING ARE RESEARCH BUILDINGS (CAMPUS AREA)						
1602	18807	19399	233	1,200		
1603	32711	43841	526	2,600		
1604	65118	80820	970	4,900		
1606	418	418			DRUM STORAGE	
1607	12822	12822	154	800		
1608	69	69			AIR STATION	
1701	42095	48985	588	3,000		
1702	70819	109373	1312	6,600		
1707	24000	47080	565	2,800		
1710	49974	111397	1337	6,700		
1712	74126	101470	1218	6,100		
1713	520	520			REFRIG. UNIT	
1714	7520	7520			STG. FOR 1712	
1716	1117	975			SUB-STATION	
1717	532	532			GUARD SHACK	
1801	5000	6024	72	400		
1802	480	480			STG. FOR 1801	
1803	102553	110550	1327	6,700		
1804	756	640			SUB-STATION	
				487,420		