Supplemental Material, Table 1. $PM_{2.5}$ source profiles for Positive Matrix Factorization (PMF) and Chemical Mass Balance-Lipschitz Global Optimizer (CMB-LGO) (in μg/μg). All sampled measured the Jefferson Street site, Atlanta, GA. August 1998 – December 2002. Values greater than 0.01 are listed in bold.

		PMF										**CMB-LGO**								
		Gas	*Diesel*	*Wood smoke*	*Soil*	*Sec. sulfate I*	*Sec. Sulfate II*	*Sec. nitrate*	*Metal processing*	*Railroad*	*Bus & Highway*	*Cement kiln*	*Gas*	*Diesel*	*Biomass burning*	*Soil*	*Ammonium sulfate*	*Ammonium nitrate*	*Ammonium bisulfate*	*Powerplants (1 °)*	*Other OC*
OC	**Thermal fraction**												**0.4370**	**0.1970**	**0.6441**	0.0440				**0.2718**	**1.0000**
	OC1	**0.0030**	**0.1396**	0.0011	0.0011	0.0011	**0.0545**	0.0042	0.0097	**0.0101**	**0.0139**	0.0038									
	OC2	**0.0704**	**0.1883**	**0.0113**	0.0100	0.0081	**0.0671**	0.0001	0.0001	**0.3206**	**0.0595**	0.0003									
	OC3	**0.4872**	**0.1070**	**0.0422**	**0.0298**	< 0.0001	**0.0238**	0.0005	**0.0820**	**0.3989**	**0.0725**	0.0061									
	OC4	**0.3087**	**0.1047**	0.0003	0.0006	**0.0113**	0.0001	**0.0339**	0.0020	**0.1337**	**0.0141**	**0.0248**									
	OP	0.0002	0.0001	0.0002	0.0016	0.0001	**0.3267**	0.0038	0.0009	0.0066	0.0014	0.0040									
EC													**0.1030**	**0.3080**	**0.1575**	0.0060				**0.0138**	
	EC1	0.0098	**0.4503**	0.0008	0.0004	< 0.0001	0.0002	**0.0100**	**0.0297**	0.0002	**0.0286**	**0.0166**									
	EC2	0.0001	< 0.0001	0.0001	0.0004	0.0002	**0.0261**	**0.0192**	**0.0596**	**0.4871**	0.0009	**0.0306**									
	EC3	0.0014	0.0004	0.0003	0.0003	0.0002	0.0036	0.0009	0.0021	**0.0290**	0.0014	0.0013									
SO_4^{-2}		0.0060	0.0024	0.0063	**0.1418**	**0.5888**	**0.2912**	**0.0977**	**0.1356**	**0.0119**	**0.0233**	**0.1609**	0.0109	**0.0100**	**0.0239**	0.0010	**0.7270**		**0.8350**	**0.2874**	
NO_3^-		**0.0162**	**0.0572**	0.0091	0.0047	0.0002	0.0089	**0.8440**	0.0087	0.0021	**0.0389**	0.0039	0.0047	0.0001	0.0024	0.0010		**0.7750**		0.0069	
NH_4^+		**0.0104**	0.0011	**0.0280**	**0.0875**	**0.2389**	**0.1413**	**0.1863**	**0.1146**	**0.2115**	**0.0705**	**0.0777**	**0.0215**	0.0073	**0.0165**		**0.2730**	**0.2250**	**0.1560**	**0.0179**	
Cl-													0.0044		**0.0761**	0.0007				0.0089	
Al		0.0022	< 0.0001	< 0.0001	**0.0207**	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0026	0.0008	0.0011	**0.0950**				**0.0530**	
As		0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	0.0003	0.0003	< 0.0001			0.0002						
Ba																				**0.0107**	
Br		< 0.0001	< 0.0001	0.0027	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001			0.0008					0.0003	
Ca		0.0029	< 0.0001	< 0.0001	**0.0130**	0.0003	0.0002	< 0.0001	< 0.0001	0.0007	0.0011	**0.0777**	0.0035	0.0003	0.0040	**0.0180**				**0.1655**	
Cu		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	**0.0204**	0.0001		0.0001		0.0003				0.0009	
Fe		0.0008	0.0080	< 0.0001	**0.0361**	0.0003	< 0.0001	0.0001	**0.0232**	0.0038	0.0028	**0.0148**	0.0011	0.0005	0.0007	**0.0530**				**0.0361**	
K		0.0098	0.0010	**0.0148**	**0.0162**	0.0002	0.0021	0.0029	0.0026	< 0.0001	0.0005	0.0036	0.0004		**0.0573**	0.0092				0.0052	
Mn		< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	0.0015	< 0.0001	< 0.0001	< 0.0001		0.0001		0.0016				0.0012	
Pb		< 0.0001	< 0.0001	0.0012	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0008	0.0005	**0.0113**	< 0.0001		0.0001		0.0001				0.0006	
Sb		0.0002	< 0.0001	0.0003	0.0001	< 0.0001	< 0.0001	0.0003	0.0003	0.0014	0.0015	0.0001	0.0022							0.0001	
Se		< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001							0.0058	
Si		< 0.0001	0.0064	< 0.0001	**0.1117**	< 0.0001	0.0015	< 0.0001	< 0.0001	< 0.0001	0.0017	**0.0252**	0.0025	0.0063	0.0030	**0.2660**				**0.1069**	
Sn													0.0003							0.0001	
Ti		< 0.0001	0.0003	< 0.0001	0.0027	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0008	0.0001	0.0009	0.0001		0.0001	**0.0100**				0.0085	
Zn		< 0.0001	0.0012	0.0017	< 0.0001	< 0.0001	< 0.0001	0.0013	0.0044	< 0.0001	< 0.0001	0.0042	0.0019	0.0007	0.0003	0.0001				0.0031	
Unidentified/ Unspecified		0.0705	- 0.0682[a]	0.8790	0.5206	0.1500	0.0524	- 0.2057[a]	0.5217	- 0.6197[a]	0.6355	0.5433	0.4038	0.4687	0.0120	0.4940	0	0	0.0090	- 0.0047[a]	0

[a] Values less than zero are caused by uncertainty due to either measurement error or rotational fitting within PMF method.

Supplemental Material, Table 2. Explained Variation (EV)* values for the 11 Positive Matrix Factorization factors and the unexplained variation.

Species	*Gas*	*Diesel*	*Wood smoke*	*Soil*	*Sec. sulfate I*	*Sec. Sulfate II*	*Sec. nitrate*	*Metal processing*	*Railroad*	*Bus & Highway*	*Cement kiln*	*Unexplained*
$PM_{2.5}$	0.077	0.115	0.063	0.033	0.343	0.091	0.061	0.044	0.042	0.008	0.023	0.101
OC1	0.007	0.47	0.002	0.001	0.014	0.166	0.009	0.013	0.014	0.003	0.003	0.297
OC2	0.096	0.375	0.014	0.006	0.059	0.116	0	0	0.235	0.008	0	0.09
OC3	0.412	0.149	0.034	0.013	0	0.03	0	0.047	0.219	0.007	0.002	0.086
OC4	0.416	0.23	0	0	0.095	0	0.044	0.002	0.122	0.002	0.012	0.075
OP	0.001	0.001	0.001	0.003	0.003	0.939	0.011	0.003	0.012	0.001	0.004	0.021
EC1	0.013	0.789	0.001	0	0	0	0.013	0.027	0	0.005	0.008	0.143
EC2	0	0	0	0.001	0.003	0.094	0.051	0.119	0.625	0	0.029	0.076
EC3	0.043	0.021	0.007	0.004	0.036	0.125	0.02	0.037	0.42	0.004	0.012	0.273
SO_4^{-2}	0.002	0.002	0.002	0.021	0.759	0.117	0.029	0.03	0.002	0.001	0.018	0.016
NO_3^-	0.028	0.148	0.012	0.004	0.002	0.019	0.722	0.008	0.002	0.007	0.002	0.046
NH_4^+	0.006	0.001	0.014	0.02	0.524	0.088	0.082	0.038	0.059	0.004	0.013	0.149
Al	0.155	0	0	0.471	0.001	0	0	0	0.001	0	0	0.371
As	0.114	0.016	0.111	0.029	0.006	0.011	0.093	0.05	0.128	0.023	0.006	0.412
Br	0.002	0.001	0.743	0.002	0.108	0.001	0.002	0.001	0.024	0	0.001	0.114
Ca	0.108	0.001	0.001	0.163	0.048	0.007	0.001	0.002	0.012	0.004	0.626	0.027
Cu	0.033	0.002	0.001	0.02	0.088	0.01	0.014	0.002	0.002	0.726	0.026	0.078
Fe	0.016	0.222	0.001	0.239	0.03	0	0.002	0.221	0.04	0.005	0.077	0.146
K	0.205	0.033	0.255	0.146	0.026	0.064	0.053	0.035	0	0.001	0.025	0.155
Mn	0.007	0.001	0.001	0.137	0.026	0.03	0.001	0.641	0.001	0.004	0.001	0.152
Pb	0	0.001	0.268	0	0	0	0	0.116	0.073	0.197	0	0.344
Sb	0.085	0.004	0.098	0.018	0.035	0.019	0.079	0.052	0.221	0.044	0.01	0.335
Se	0.007	0.001	0.15	0.017	0.154	0	0.136	0	0.099	0.003	0.017	0.417
Si	0	0.19	0.001	0.583	0	0.034	0.001	0.001	0.001	0.003	0.123	0.063
Ti	0.003	0.151	0.004	0.278	0.056	0.012	0.011	0.037	0.103	0.003	0.072	0.27
Zn	0	0.181	0.142	0	0	0.001	0.106	0.233	0	0	0.12	0.215

* The quantity EV is dimensionless and summarizes how important each factor element is in explaining one row or column of the observed matrix. The values of EV range from 0.0 to 1.0, from no influence on a variable value to complete explanation. The definition considers that all of X is explained jointly by the p factors and by the residual, as if the residual were an extra (p+1st) factor. Taken together, these p+1 "factors" by definition explain 100% of X. The equations for the variation of the factor G are

$$EV(F)_{kj} = \frac{\sum_{i=1}^{m} \frac{g_{ik} f_{kj}}{s_{ij}}}{\sum_{i=1}^{m} \left[\sum_{h=1}^{p} \frac{\left(g_{ih} f_{hj} + e_{ij} \right)}{s_{ij}} \right]} \qquad (for\ k = 1, \ldots, p)$$

$$EV(F)_{kj} = \frac{\sum_{i=1}^{m} \frac{e_{ik}}{s_{ij}}}{\sum_{i=1}^{m} \left[\sum_{h=1}^{p} \frac{\left(g_{ih} f_{hj} + e_{ij} \right)}{s_{ij}} \right]} \qquad (for\ k = p+1)$$

The top expression in the equation defines how much each element gik (k=1,...,p) of the factor F explains of the jth row of the matrix X. The lower equation defines similarly how much the residual values eij explains of the ith row. By definition, the sum of these p+1 values equals unity.

Supplemental Material, Tables 3a-b. Within-method Spearman's correlation coefficients by season for (a) Positive Matrix Factorization (PMF) and (b) Chemical Mass Balance-Lipschitz Global Optimizer (CMB-LGO) source categories (November 1998 – December 2002). Values in the upper right represent correlations during the cool season (10/15 - 4/14); values in the lower left represent correlations during the warm season (4/15 - 10/14).

(a) PMF

	Gas	*Diesel*	*Wood smoke*	*Soil*	*Secondary sulfate*	*Secondary sulfate II*	*Secondary nitrate*	*Metal processing*	*Railroad*	*Bus & highway*	*Cement kiln*	***Total PM 2.5***
Gas		0.68	0.48	0.10	0.17	-0.05	-0.01	0.31	-0.28	0.26	0.01	0.53
Diesel	0.56		0.64	0.15	0.25	-0.03	0.01	0.51	-0.12	0.52	0.25	0.74
Wood smoke	0.42	0.52		0.25	0.34	0.12	0.14	0.34	-0.21	0.31	0.24	0.74
Soil	0.19	0.21	0.19		0.22	0.07	-0.09	0.17	0.07	0.16	0.37	0.28
Secondary sulfate	0.10	0.35	0.25	-0.01		0.04	0.14	0.10	-0.10	0.00	0.01	0.54
Secondary sulfate II	0.02	0.21	0.13	0.03	0.33		0.08	-0.12	0.12	-0.25	0.16	0.09
Secondary nitrate	-0.09	0.14	0.12	-0.12	0.21	0.10		0.17	-0.16	-0.02	0.06	0.28
Metal processing	0.08	0.29	0.17	0.05	0.15	-0.03	0.21		-0.23	0.42	0.29	0.49
Railroad	-0.46	-0.10	-0.22	-0.06	0.05	0.31	0.14	-0.04		-0.09	0.05	-0.15
Bus & highway	-0.01	0.22	0.01	-0.03	-0.06	-0.05	0.09	0.23	0.08		0.16	0.40
Cement kiln	0.14	0.46	0.38	0.34	0.22	0.30	0.15	0.33	0.12	0.16		0.25
Total PM 2.5	0.30	0.59	0.43	0.16	0.87	0.43	0.21	0.29	0.05	0.01	0.41	

(b) CMB-LGO

	Gas	*Diesel*	*Biomass burning*	*Soil*	*Ammonium sulfate*	*Ammonium nitrate*	*Powerplants (1 °)*	*Ammonium bisulfate*	*Other OC*	***Total PM 2.5***
Gas		0.54	0.66	0.13	0.26	0.40	-0.02	-0.08	0.39	0.69
Diesel	0.46		0.54	0.36	0.29	0.14	0.07	-0.15	0.76	0.63
Biomass burning	0.43	0.34		0.34	0.38	0.33	0.01	-0.09	0.55	0.81
Soil	0.10	0.28	0.50		0.34	-0.09	0.23	-0.19	0.32	0.35
Ammonium sulfate	0.30	0.40	0.31	0.08		0.06	0.09	-0.31	0.24	0.56
Ammonium nitrate	0.44	0.45	0.32	0.01	0.32		0.06	0.33	0.11	0.46
Powerplants (1 °)	0.21	0.39	0.29	0.32	0.28	0.14		-0.01	0.02	0.09
Ammonium bisulfate	-0.09	-0.07	0.15	0.03	0.08	0.03	0.11		-0.14	-0.01
Other OC	0.22	0.61	0.40	0.26	0.47	0.23	0.27	0.08		0.55
Total PM 2.5	0.45	0.53	0.53	0.22	0.87	0.38	0.41	0.22	0.61	

Supplemental Material, Table 4. Distribution of the absolute daily deviations between Positive Matrix Factorization (PMF) and Chemical Mass Balance-Lipschitz Global Optimizer (CMB-LGO) estimated source impacts.

	Mean deviation ($\mu g/m^3$)	**Deviation 25th pctl ($\mu g/m^3$)**	**Deviation 75th pctl ($\mu g/m^3$)**	**Grand mean[a] ($\mu g/m^3$)**	**Relative deviation[b] (%)**
Cool season (10/15 - 4/14)					
Gasoline	0.99	0.32	1.28	1.58	62.8
Diesel	1.21	0.29	1.54	2.09	57.9
Wood smoke / Biomass burning	0.56	0.29	0.66	1.36	41.1
Soil	0.16	0.06	0.20	0.26	62.0
Sulfate 1/ Ammonium sulfate	0.94	0.30	1.16	4.28	22.0
Secondary nitrate / Ammonium nitrate	0.62	0.22	0.73	1.70	36.4
Warm season (4/15 - 10/14)					
Gasoline	0.73	0.23	0.96	1.08	67.4
Diesel	0.73	0.24	1.01	1.62	45.0
Wood smoke / Biomass burning	0.35	0.12	0.46	0.84	41.8
Soil	0.35	0.12	0.39	0.58	60.2
Sulfate 1/ Ammonium sulfate	1.13	0.25	1.31	8.47	13.3
Secondary nitrate / Ammonium nitrate	0.30	0.11	0.33	0.74	40.5

[a] Represents the mean of all CMB-LGO and PMF values for this source category.
[b] Calculated as the mean deviation divided by the grand mean.

Supplemental Material, Table 5. Risk ratios and 95% CIs per inter-quartile range increase from same-day lag models for the association of emergency department visits for all Respiratory Disease (RD) and Cardiovascular Disease (CVD) with daily source-apportioned ambient $PM_{2.5}$ (Atlanta, November 1998 - December 2002).

	RD		**CVD**	
	RR	(95% CI)	RR	(95% CI)
Total $PM_{2.5}$	1.005	(0.996-1.015)	1.022	(1.007-1.037)
PMF Diesel	0.997	(0.990-1.004)	1.025	(1.014-1.036)
CMB Diesel	0.995	(0.987-1.002)	1.018	(1.006-1.029)
$PM_{2.5}$ EC	0.996	(0.988-1.003)	1.025	(1.013-1.037)
PMF Gasoline	0.999	(0.993-1.005)	1.019	(1.010-1.029)
CMB Gasoline	1.001	(0.995-1.008)	1.025	(1.014-1.036)
$PM_{2.5}$ Zinc	0.997	(0.991-1.002)	1.013	(1.005-1.022)
PMF Wood smoke	0.999	(0.993-1.004)	1.024	(1.015-1.033)
CMB Biomass burning	1.003	(0.995-1.011)	1.033	(1.021-1.045)
$PM_{2.5}$ Potassium	1.002	(0.994-1.010)	1.030	(1.018-1.042)
PMF Soil	0.997	(0.993-1.002)	1.004	(0.998-1.010)
CMB Soil	0.997	(0.991-1.003)	1.006	(0.998-1.013)
$PM_{2.5}$ Silicon	0.996	(0.990-1.003)	1.008	(1.00-1.016)
PMF Secondary sulfate I	1.012	(1.002-1.023)	1.004	(0.990-1.017)
CMB Ammonium sulfate	1.012	(1.001-1.023)	1.004	(0.989-1.019)
$PM_{2.5}$ Sulfate (SO_4^{2-})	1.020	(1.010-1.030)	1.007	(0.994-1.019)
PMF Secondary nitrate	0.999	(0.992-1.006)	0.997	(0.986-1.008)
CMB Ammonium nitrate	0.998	(0.991-1.006)	1.003	(0.991-1.014)
$PM_{2.5}$ Nitrate (NO_3^-)	0.999	(0.991-1.006)	1.002	(0.990-1.014)
CMB Powerplants (1°)	0.991	(0.984-0.998)	0.993	(0.983-1.004)
$PM_{2.5}$ Selenium	0.998	(0.991-1.005)	1.002	(0.991-1.012)
CMB Other OC	0.998	(0.992-1.004)	1.014	(1.004-1.024)
$PM_{2.5}$ Organic carbon	0.997	(0.990-1.005)	1.024	(1.013-1.035)
PMF Secondary sulfate II	1.004	(0.995-1.012)	0.988	(0.976-1.001)
PMF Cement kiln	0.999	(0.993-1.004)	1.004	(0.996-1.012)
PMF Railroad	1.003	(0.994-1.013)	0.995	(0.982-1.009)
PMF Metal processing	1.001	(0.994-1.008)	1.013	(1.002-1.024)

Supplemental Material, Table 6. Risk ratios and 95% CIs per inter-quartile range increase from same-day lag models for the association of emergency department visits for all Respiratory Disease (RD) and Cardiovascular Disease (CVD) with daily source-apportioned ambient $PM_{2.5}$ during the cool season (10/15 - 4/14) and warm season (4/15 - 10/14) (Atlanta, November 1998 - December 2002).

	RD				CVD			
	Cool season		Warm season		Cool season		Warm season	
	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)
Total $PM_{2.5}$	0.996	(0.978-1.015)	1.025	(1.012-1.039)	1.028	(1.012-1.044)	1.006	(0.990-1.022)
PMF Diesel	0.995	(0.984-1.007)	1.021	(1.007-1.035)	1.026	(1.013-1.038)	1.023	(1.002-1.045)
CMB Diesel	0.997	(0.985-1.010)	1.012	(1.000-1.025)	1.025	(1.011-1.039)	1.010	(0.991-1.029)
$PM_{2.5}$ EC	0.995	(0.982-1.008)	1.018	(1.003-1.032)	1.029	(1.015-1.044)	1.021	(1.000-1.043)
PMF Gasoline	0.999	(0.989-1.009)	1.024	(1.010-1.037)	1.023	(1.012-1.034)	1.017	(0.998-1.037)
CMB Gasoline	0.989	(0.978-1.000)	1.019	(1.006-1.032)	1.026	(1.013-1.038)	1.020	(1.001-1.039)
$PM_{2.5}$ Zinc	0.991	(0.982-1.001)	1.010	(0.999-1.021)	1.012	(1.002-1.022)	1.017	(1.002-1.033)
PMF Wood smoke	0.997	(0.988-1.006)	1.007	(0.992-1.022)	1.027	(1.017-1.037)	1.023	(1.000-1.046)
CMB Biomass burning	1.004	(0.990-1.019)	1.016	(1.004-1.028)	1.035	(1.019-1.051)	1.031	(1.012-1.049)
$PM_{2.5}$ Potassium	0.998	(0.984-1.013)	1.011	(0.999-1.022)	1.037	(1.021-1.054)	1.024	(1.007-1.041)
PMF Soil	0.986	(0.967-1.006)	0.999	(0.994-1.004)	1.016	(0.995-1.038)	1.002	(0.996-1.009)
CMB Soil	0.992	(0.973-1.012)	0.999	(0.994-1.005)	1.015	(0.995-1.036)	1.004	(0.996-1.012)
$PM_{2.5}$ Silicon	0.986	(0.967-1.005)	1.000	(0.994-1.007)	1.022	(1.002-1.043)	1.005	(0.996-1.014)
PMF Secondary sulfate I	0.997	(0.972-1.024)	1.017	(1.007-1.028)	1.026	(0.998-1.055)	1.004	(0.990-1.019)
CMB Ammonium sulfate	0.995	(0.968-1.023)	1.016	(1.005-1.027)	1.040	(1.010-1.072)	0.999	(0.983-1.016)
$PM_{2.5}$ Sulfate (SO_4^{2-})	0.982	(0.958-1.006)	1.018	(1.009-1.028)	1.014	(0.991-1.037)	1.001	(0.988-1.015)
PMF Secondary nitrate	0.993	(0.982-1.004)	1.009	(0.988-1.030)	1.004	(0.991-1.016)	0.985	(0.955-1.016)
CMB Ammonium nitrate	0.991	(0.979-1.002)	1.010	(0.993-1.027)	1.004	(0.991-1.016)	1.010	(0.985-1.036)
$PM_{2.5}$ Nitrate (NO_3^-)	0.992	(0.980-1.003)	1.018	(0.996-1.040)	1.006	(0.993-1.019)	1.000	(0.969-1.033)
CMB Powerplants (1°)	0.990	(0.977-1.003)	0.997	(0.986-1.008)	0.992	(0.978-1.007)	0.997	(0.982-1.013)
$PM_{2.5}$ Selenium	0.999	(0.986-1.013)	1.001	(0.990-1.011)	1.012	(0.997-1.027)	0.996	(0.981-1.011)
CMB Other OC	0.999	(0.989-1.010)	1.015	(1.002-1.029)	1.018	(1.006-1.029)	1.011	(0.991-1.031)
$PM_{2.5}$ Organic carbon	0.996	(0.984-1.008)	1.026	(1.010-1.041)	1.027	(1.013-1.040)	1.027	(1.004-1.051)
PMF Secondary sulfate II	0.991	(0.974-1.008)	1.005	(0.993-1.016)	0.988	(0.971-1.006)	0.994	(0.978-1.011)
PMF Cement kiln	0.988	(0.977-1.000)	1.004	(0.997-1.011)	0.998	(0.986-1.010)	1.008	(0.998-1.019)
PMF Railroad	1.000	(0.982-1.019)	0.995	(0.984-1.007)	0.989	(0.970-1.009)	0.998	(0.981-1.015)
PMF Metal processing	0.994	(0.980-1.008)	1.007	(0.996-1.017)	1.010	(0.996-1.025)	1.013	(0.997-1.029)