

## Subject Index

- Ablation: 4301  
 Abrasion resistance: 293, 2629, 3817, 4671, 4887, 6421  
 Abrasive cutting: 7161  
 Abrasive wear: 3453  
 ABS resins: 649, 1173, 2737, 4821  
 Absorbers (materials): 2209  
 Absorption: 2717, 3541  
 Absorption (energy): 1837, 4017, 6987  
 Absorption (material): 61, 67, 201, 2835, 6325  
 Absorption spectra: 3695, 6303  
 Absorption spectroscopy: 193  
 Acceptors (electronic): 3201, 3509  
 Acetates: 6843  
 Acetonitrile: 4451  
 Acetylacetone: 4235  
 Achievement: 4987  
 Acicular structure: 683  
 Acid leaching: 4693  
 Acid rain: 1913  
 Acid resistance: 3319  
 Acids: 2341  
 Acoustic emission testing: 2905, 3483  
 Acoustics: 4139, 7237  
 Acrylates: 4487, 6383  
 Acrylic acid: 4487  
 Acrylic resins: 1861, 3155, 3717, 5613  
 Actinide mononitrides: 1869  
 Activated carbon: 201, 737, 3149, 3705, 4693, 5175  
 Activated sintering: 1131, 4705, 6017  
 Activation: 5181, 5227  
 Activation analysis: 3705, 4693, 5117, 5217, 5507  
 Activation energy: 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175  
 Activity: 969, 1903, 2879  
 Actuators: 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185  
 Adhesion: 2707, 4013  
 Adhesion tests: 1, 1, 4729  
 Adhesive bonding: 1, 649, 4729  
 Adhesive joints: 1  
 Adhesive joints, Physical properties: 1503, 3453, 3493  
 Adhesive strength: 3453  
 Adhesive wear: 4869, 5231, 5315  
 Adiabatic flow: 2973, 4103  
 Admixtures: 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341  
 Adsorption: 1463  
 Aerogels: 2783, 2801  
 Aerosols: 2561, 5019, 5613, 5995, 6023, 7259  
 Aerospace: 501, 1639, 7089  
 Aerospace engines: 3207, 3475, 4631, 5091, 5379, 5785  
 Agglomerates: 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833  
 Agglomeration: 4045, 4067, 4941, 6221, 6473  
 Aggregates: 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233  
 Aging: 2253, 2535, 2861, 4841, 6483  
 Aging (artificial): 5  
 Aging (natural): 3453  
 Aging aircraft: 5905, 5915  
 Agricultural equipment: 2473  
 Air breathing engines: 4171  
 Air cooling: 2209  
 Air plasma: 271  
 Air pollution: 1081, 2263, 3845  
 Aircraft: 289  
 Aircraft components: 5, 6399  
 Aircraft industry: 349  
 Airframes: 4235  
 Albumin: 3797  
 Alcohols: 5189  
 Algebra: 6221  
 Alkali metal compounds: 3121  
 Alkali-silica reactions: 4301  
 Alkalizing: 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125, 5189, 5201, 5227, 5403, 5451, 5503, 6539, 6987, 7107, 7115, 7303, 5175, 969, 1903, 2879, 1, 1, 2, 547, 839, 1051, 1173, 1809, 1879, 2033, 2159, 2543, 2737, 3817, 4185, 2707, 4013, 1, 1, 4729, 1, 649, 4729, 1, 1503, 3453, 3493, 3453, 4869, 5231, 5315, 2973, 4103, 349, 1315, 1383, 3629, 4487, 5175, 5869, 6591, 7317, 7341, 1463, 2783, 2801, 2561, 5019, 5613, 5995, 6023, 7259, 501, 1639, 7089, 3207, 3475, 4631, 5091, 5379, 5785, 1743, 4295, 5143, 5189, 5325, 5347, 5379, 5833, 4045, 4067, 4941, 6221, 6473, 113, 925, 1095, 1759, 2593, 3115, 4035, 4211, 6125, 6233, 2253, 2535, 2861, 4841, 6483, 5, 3453, 5905, 5915, 2473, 4171, 2209, 271, 1081, 2263, 3845, 289, 5, 6399, 349, 4235, 3797, 5189, 6221, 3121, 4301, 293, 2629, 3817, 4671, 4887, 6421, 7161, 3453, 649, 1173, 2737, 4821, 2209, 2717, 3541, 1837, 4017, 6987, 61, 67, 201, 2835, 6325, 3695, 6303, 193, 3201, 3509, 6843, 4451, 4235, 4987, 683, 4693, 1913, 3319, 2341, 2905, 3483, 4139, 7237, 4487, 6383, 4487, 1861, 3155, 3717, 5613, 1869, 201, 737, 3149, 3705, 4693, 5175, 1131, 4705, 6017, 5181, 5227, 3705, 4693, 5117, 5217, 5507, 51, 1711, 2493, 4107, 4211, 5019, 5125,

	3079, 3871, 3941, 4013,	Bauschinger effect:	3593
	4271, 4339, 4697, 5987,	Beads:	3003
	6577, 6909	Bearing steels:	5639
Annealing:	323, 1113, 1819, 2327, 3203,	Bearings:	1499
	3613, 4157, 4231, 4799,	Bend strength:	1609, 1635, 1735, 3137,
	4917, 5185, 5255, 5263,		3375, 5939, 5951, 6389
	5267, 5271, 5279, 5305,	Bend tests:	225, 271, 1437, 1571, 3619,
	5365, 5399, 6291, 6467,		3751, 6457, 6539
	7107, 7115	Bending:	1473
Anodes:	731, 1077, 1105, 4001, 4345,	Bentonite:	5209
	4405, 5361	Bias:	3199, 4799, 4905
Anodic coatings:	5239	Billet casting:	6835
Anodic dissolution:	5779	Billets:	1227
Anodic polarization:	2747	Bimetals:	757, 4113
Anodizing:	3369	Binary alloys:	5003, 6365, 6645
Antiferromagnetism:	5057	Binary mixtures:	6945
Antimonates:	1179	Binary systems:	3, 911, 2179, 5067, 5071,
Antimony:	6299		5135, 5461, 6233
Antimony compounds:	1105	Binder removal:	2113, 3397
Antistatics:	3069	Binders (adhesives):	481, 539
Anvils:	6457	Binding:	349
Apatite:	2601, 4861, 5747	Binding energy:	3201, 6421
Aqueous environments:	6901	Bingham plastics:	3471
Aqueous solutions:	4643	Bioceramics:	5865
Aramid fiber reinforced plastics:	289, 1491	Biocompatibility:	373, 1411, 1913, 2961, 4309,
Arc cutting:	7161		4721, 4961, 5547, 5865,
Arc melting:	7269		6809
Aromatic polyamides:	1491, 5497	Biodegradation:	1913, 2961, 4309
Arrays:	2951, 3249	Biomaterials:	5357, 5577
Asbestos:	4941	Biomedical materials:	339, 373, 619, 769, 925,
Aspect ratio:	3151, 4335		1055, 1429, 1861, 2443,
Asphalts:	539		2531, 5547, 5583, 5613,
Assaying:	5347		5669, 7041, 7275
Atmospheric corrosion:	4393	Birds:	207, 2895
Atmospheric effects:	4931	Birefringence:	4, 1415, 1805, 3783
Atmospheric pressure:	4359	Bismuth:	5421
Atomic force microscopy:	2911, 4905, 5379, 6687	Bismuth base alloys:	6571
Atomic interactions:	3949, 4107, 5067	Bismuth compounds:	133, 911, 1357, 3171, 3517,
Atomic layer deposition:	2195		4005
Atomic oxygen:	1779	Bismuth oxides:	5591, 7379
Atomic properties:	5011	Bismuth tellurides:	5653
Atomic structure:	5411, 5527, 6687	Bisphenols:	2737
Atomizing:	1029, 3647	Bitumens:	951
Atoms:	3425	Blades (cutting):	2761
Attenuation:	3799, 5841	Blending effects:	3449
Attrition mills:	3449	Blends:	7373
Auger electron spectroscopy:	2911	Block copolymers:	649, 1283, 2249, 3281, 3829,
Austenite:	1121, 1527, 1997, 2257,		4045, 4353
	2371, 2569, 3949, 4009,	Blowing:	4669
	4321	Body centered cubic lattice:	911, 5023, 5139, 5155, 5287,
Austenitic stainless steels:	839, 845, 1195, 1389, 1481,		5445, 6333
	1815, 1997, 2919, 4139,	Boiler tubes:	1033
	4321, 4869, 5537, 5557,	Boiling water reactors:	2519
	6101, 6857, 6901	Bonding:	741, 741
Austenitic stainless steels, Phase transformations:	85	Bonding strength:	605, 605, 839, 3345, 3493,
Automotive bodies:	6495		3957, 5873, 6125
Automotive components:	641, 1495, 4035, 4387, 4659,	Bone:	737
	7395	Bones:	207
Automotive engines:	3935	Borates:	193, 1445, 2451, 4325, 6203,
Automotive industry:	6631		6643
Auxetic materials:	3269	Borides:	933, 1109, 1131, 4893, 5081,
Avionics:	4387		5507, 5887, 5925, 5939,
Axial stress:	2121, 2481, 5765, 6467		5951, 5959, 5987, 6023,
Backscattering:	3913		6051
Bacteria:	5695	Borides, Composite materials:	127
Bacterial corrosion:	7341	Boron:	1135, 2539, 4835, 5071
Bactericides:	5695	Boron carbide:	4957, 6017
Bainitic steel:	4305	Boron carbides:	6263
Ball milling:	3, 343, 683, 1455, 1557,	Boron fibers:	3845
	2585, 2621, 3025, 3475,	Boron nitride:	343, 2089, 2131, 2941, 4705,
	4255, 5037, 5045, 5091,		6263, 7303
	5111, 5139, 5147, 5151,	Boron oxide:	5361
	5155, 5169, 5185, 5213,	Borosilicate glasses:	3533
	5235, 5243, 5251, 5255,	Borothermic reactions:	6051
	5259, 5295, 5389, 5407,	Boundary conditions:	5939
	5421, 5431, 5441, 5451,	Braided composites:	3809, 4495, 4901
	5483, 5491, 5503	Brakes:	641
Ball mills:	5121, 5291, 5325	Brasses:	1153, 4139
Ballistics:	753	Brazed joints:	4587, 5587
Bamboo:	1055, 1473, 5861	Brazing:	741, 741, 1125
Band spectra:	3695	Brazing alloys:	3159, 4587, 5727
Band structure of solids:	3163	Breakdown:	2543, 3487, 7379
Bandwidth:	3641	Breaking:	3241, 4615
Barium compounds:	867, 987, 1087, 1903, 2493,	Brick:	4247,
	2547, 3445, 4319, 6847	Bridging:	5987, 7351
Barium oxides:	6203, 7093	Bridgman method:	6571
Barium titanate:	645, 813, 867, 1397, 1831,	Brightness:	3717, 5319
	2675, 2755, 2997, 3457	Brinell hardness:	1759
Barium titanates:	3853, 4235, 4363, 4931,	Brittle fracture:	73, 529, 1703, 1967, 2841,
	6129, 6523		4543, 6473, 6529, 6813,
Barkhausen effect:	1367		7023
Base metal:	7119	Brittle materials:	3175, 3501, 4335

## Subject Index - 2004

Brittleness:	271, 369, 1441, 2767, 3241, 3751, 3975, 4335, 4901, 5599, 5939, 6993	Catalytic activity:	3549, 4663, 5091, 5517
Broken symmetry:	4995	Cathodes:	3635, 4001, 4235, 5595
Brush plating:	4345	Cathodic coating (process):	5595, 5747, 6607
BSCCO superconductors:	6881, 7125	Cathodic dissolution:	5779
Bubbles:	1779, 3265, 3805	Cathodic polarization:	495
Bubbling:	141	Cathodoluminescence:	6675
Buckling:	529, 5873, 6813, 7395	Cationic polymerization:	3151,
Buffers:	4185, 6871	Cations:	2873, 7019
Bulging:	3369	Caustic leaching:	5467
Bulk density:	1363, 1735, 2037	Cavitation:	3211, 3265, 4107
Bulk modulus:	1241, 2887, 4157	Cavitation erosion:	295, 6603
Bushings:	1499	Cellular automata:	7193, 7207
Cadmium base alloys:	1147, 1515	Cellular precipitates:	5537
Cadmium compounds:	993, 3357, 7085	Cellular structure:	1579, 2795, 3705, 3865
Cadmium selenides:	4345, 6347	Cellulose:	1913
Cadmium sulfide:	2411	Cellulose acetate:	6631
Cadmium sulfides:	6303	Cellulose fibers:	3245
Cadmium tellurides:	7115	Cement constituents:	5683
Calcification:	1861	Cemented carbides:	4397, 5217
Calcines:	3635, 6361	Cementite:	5411, 6503
Calcite:	3015	Cements:	1727, 3015, 4103, 4631, 5841, 6975
Calcium:	2017	Central America/Caribbean:	4139
Calcium aluminum ferrite:	6611	Centrifugal force:	7259
Calcium carbonate:	2891, 4487, 5279, 5497, 5683	Ceramic coatings:	819, 851, 1389, 4031, 4185, 4309, 4701, 4887, 4961, 6791
Calcium compounds:	1711, 3523, 4627, 6325	Ceramic fiber reinforced ceramics:	2089, 2573, 7303
Calcium fluoride:	2883	Ceramic fibers:	469, 1547, 1683, 1875, 2699, 2827, 3745, 5881, 6243, 7031
Calcium magnesium silicates:	5393	Ceramic matrix composites:	2037, 2205, 2239, 3141, 4507, 5865, 5905, 5915, 5959, 5979, 6851
Calcium phosphate:	1861, 2443, 5577, 6311	Ceramic powder:	2901
Calcium phosphates:	7041	Ceramic powders:	1017, 1471, 1935, 2931, 4171, 4289, 4687, 5201, 6111
Calcium silicates:	373, 5841, 5869	Ceramics:	1, 5, 6, 271, 315, 867, 867, 1061, 1441, 2581, 2873, 2879, 2897, 2955, 3105, 3213, 4319, 4335, 4575, 4715, 5915, 6399, 6757 2349, 6375, 7061
Calcium titanate:	5279	Cerium:	2349, 6375, 7061
Calibration:	1185	Cerium base alloys:	1169
Cameras:	2879	Cerium compounds:	825, 5283
Cans:	6097	Cerium oxide:	4035, 5765, 5833, 6371, 7397
Cantilever beams:	3839	Cerium oxides:	4663, 4909
Capacitance:	3155, 4313, 4475, 4697	Cermets:	731, 1041, 3163, 4405, 4705
Capacitors:	6, 1903, 1943, 1959, 3149, 4005, 4313, 4363, 4697, 4923, 6523	Cermets, Electrical properties:	319
Capillarity:	2437	Cesium:	4861
Capillary pressure:	1037	Chain scission:	5275
Carbazoles:	3783	Chains (polymeric):	5673, 6843
Carbides:	1071, 1241, 1471, 2073, 5315, 5939, 6023, 6043	Chalcogenides:	961, 1659, 2183, 4643, 6141
Carbon:	3, 1463, 1507, 1735, 2179, 2663, 2727, 2873, 3227, 3793, 3949, 5071, 5411, 5603, 6209, 6623	Characterization:	1799
Carbon, Impurities:	361	Charge carriers:	4001
Carbon black:	151, 695, 1459, 1751, 2199, 2645, 4937, 5561, 5617, 5673	Charge transfer:	4995
Carbon dioxide:	5393	Charged particles:	1845
Carbon fiber reinforced cements:	1727	Charging:	5251
Carbon fiber reinforced ceramics:	851, 3521, 3809, 4901, 5995, 7303	Charpy impact test:	3763
Carbon fiber reinforced plastics:	641, 1297, 1491, 1495, 2211, 2905, 6073, 7365	Chelating:	339, 1087, 2683, 6191
Carbon fibers:	691, 1081, 1091, 1411, 2645, 2945, 2989, 4693, 5563	Chemical bonds:	3901, 4729
Carbon manganese steels:	6555	Chemical cleaning:	7317
Carbon nanotubes:	283, 691, 1091, 1495, 2199, 2315, 3241, 3777, 4441, 4481, 4921, 5809, 5861	Chemical composition:	3199, 4721, 5411, 6809
Carbon steels:	495, 975, 1849, 4289, 4331	Chemical effects:	4987
Carbon steels, Mechanical properties:	295	Chemical etching:	6137
Carbon tool steels:	5625	Chemical milling:	5175, 5195, 5375, 5393, 5425, 5497, 5507
Carbon-carbon composites:	173, 4495, 7383	Chemical potential:	1449
Carbon-epoxy composites:	2789, 3465, 3763	Chemical properties:	1489, 2295, 4957, 5117, 5235, 5669
Carbonates:	2767, 3357, 5189	Chemical reactions:	5019, 5143, 5161
Carbonation:	5683	Chemical sensors:	3237, 5825
Carbonitriles:	1907, 3375, 3521	Chemical vapor deposition:	283, 329, 377, 1091, 1135, 1571, 1639, 1853, 1907, 2663, 2869, 2941, 3235, 3309, 3793, 3813, 4905, 5533, 5771, 5995, 6603, 6781
Carbonization:	3365, 3793, 5393, 6209	Chemical vapor infiltration:	7303
Carbothermic reactions:	3167, 6051, 6057, 6263	Chemicals:	2909
Carburizing:	4397	Chemisorption:	141
Carrier density:	3, 2865, 3195, 6353	Chemistry:	2873, 4987
Carrier mobility:	1147, 3195	Chirality:	3227
Cartilage:	5669	Chloride resistance:	7341
Cast alloys:	4719, 7401	Chlorides:	4987, 5111
Cast iron:	687, 1109, 1129, 6097	Chromates:	2887
Casting:	7, 7199	Chromium:	3047
Casting alloys:	1343, 2861, 6619	Chromium carbide:	4553, 7111
Casting alloys, Microstructure:	215	Chromium compounds:	7369
Casting defects:	7253	Chromium dioxide:	683
Catalysis:	723, 1455, 2199, 2683, 3309, 3705, 3767, 4313, 4693, 4921, 5455		
Catalysts:	1507, 3095, 3227, 3265, 3833, 4035, 4663, 5375		

Chromium manganese steels:	2841	5399, 7395
Chromium molybdenum steels:	1125	3487
Chromium molybdenum steels, Mechanical properties:	335	4593, 5435, 7183, 7193
Chromium molybdenum vanadium steels:	519, 637, 2053, 4533, 6551, 6835, 6981	4387
Chromium molybdenum vanadium steels, Welding:	241	889
Chromium oxides:	5243, 6723	2617
Chromium plating:	1523	619, 2277, 2303, 2553, 3487, 3889, 4593, 6271, 7135, 7193, 7237
Chromium steels:	5639	5441
Chromium steels, Mechanical properties:	295	5209, 5217, 5339, 5455
Chromophores:	2335, 3783	2901
Chrysotile:	4941	2191, 7003
Circuits:	2243, 5235	5881, 6723
Citrates:	2821	5543
Citric acid:	2821, 7327, 7333	511, 695, 1377, 2395, 2901, 2945, 3069, 3777, 4001, 4081, 4295, 5561, 5837, 6089, 6937, 7097
Clay (material):	7327, 7333	2897, 4325
Clay minerals:	4487, 4671	3, 2865, 2897, 2901, 2965, 3069, 4081, 6937, 7085
Cleaning:	4669, 6861, 7317	2897, 2965, 3769
Clinker:	3449	2335
Close packed lattices:	3759, 5441	4909
Closed cell porosity:	3513, 5647	1041, 5169, 5295, 5445
Clustering:	2487, 5023, 6349	3179, 3479
Clusters:	6365, 6473	3179, 3191, 3479, 4119
Coagulation:	3629, 4235, 6439	4247, 5869
Coal:	5467	401, 5727
Coalescing:	4515	7245
Coarsening:	1803, 3449, 3927, 5287, 6017, 6243, 6379, 6467	6523
Coated particles:	3357	1795, 2775, 6817
Coating:	2973	361, 5111
Coating effects:	3383, 7327	4669, 5111, 5291, 6125
Coatings:	1593	5311
Cobalt:	265, 2951, 4397, 4917, 5067, 5217, 6851, 7387	5607
Cobalt base alloys:	1523, 1615, 2927, 3941, 4309, 5385	3521, 3809, 4901
Cobalt compounds:	1105, 4697, 6191	4199
Cobalt oxides:	5595	4119
Codeposition:	495, 4063	4039, 5925
Coefficient of friction:	5533	3733, 4679
Coefficient of variation:	3129	2569, 4561, 5155, 7229, 7379
Coefficients:	3433	1315
Coercive force:	85, 477, 987, 1321, 1997, 2231, 2365, 2951, 3941, 5139, 5255	4995
Coercivity:	4271, 7387	2395, 2945, 3261, 4353, 6383
Coextrusion:	4113, 5951	925, 951, 1173, 1407, 1827, 1883, 2395, 2717, 3261, 3839, 4049, 4295, 4301, 4487, 6843
Cohesion:	2131, 3493	193, 495, 731, 1095, 1153, 1309, 1615, 1943, 1959, 2121, 2349, 2707, 3047, 3089, 3149, 3163, 3257, 4107, 4119, 4157, 4211, 4263, 4331, 4683, 4829, 5067, 5235, 5287, 5325, 5421, 5877
Coiling:	3227	5421, 5877
Coins:	3329	319
Cold isostatic pressing:	881	1579, 3159, 4331, 4587, 4633, 4659, 4933, 5343, 5701
Cold molding:	1735	1325, 2473, 2887, 3357, 5161
Cold pressing:	127	4663
Cold rolling:	5365, 6467	4353, 6311, 6383
Cold welding:	5135	4263, 4877
Cold working:	6495	6101, 6675
Collapse:	3425	4729, 6125
Collision dynamics:	5121, 5431	6627, 6951
Collision parameters:	4067	2519, 6901
Colloids:	311, 4171, 4987, 6639	6901, 7341
Coloring:	3541	1041, 1815, 4475, 5477, 5633, 6627
Colors (materials):	4909	1033
Columnar structure:	477, 1377, 3569, 6215	5809, 6619
Combustion:	565, 1041, 1773, 2073, 2199, 5979, 6627	4309, 5477
Combustion synthesis:	3167, 3509, 4031, 4057, 4683, 4687, 4711, 4849, 4949, 5227, 5315, 5319, 6111, 6421	1815, 5633, 6627, 6901
Comminution:	1179, 3449, 5217, 5223, 5243, 5421	5, 289, 293, 329, 369, 975, 1033, 1481, 1523, 2257, 2295, 2519, 3493, 3533, 4309, 4383, 4393, 5477, 5551, 5881, 6449, 6619, 6809, 6857, 7341
Compacting:	1085, 1143	593, 4383, 4391, 5607
Compacts:	5425	4675, 6627
Complexing:	4643	4309
Components:	2879	5223
Composite materials:	1, 291, 1277, 4729, 5809, 6209	3901
Composite materials, Bonding:	1	3261, 3829
Composition:	2717	
Composition effects:	3319, 4397, 5727, 6365, 7175	
Compounds:	2873	
Compressibility:	5511	
Compressibility (powder):	803	
Compressing:	4119, 4371, 6093, 6975, 7395	
Compression tests:	3085, 3619, 5399	
Compressive properties:	207, 529, 939, 2295, 4949, 5817, 5873, 6539	
Compressive strength:	571, 731, 1499, 1503, 2159, 2191, 2263, 3449, 3593, 4021, 4119, 4575, 4631,	
Computation:		
Computational fluid dynamics:		
Computer applications:		
Computer control:		
Computer programs:		
Computer simulation:		
Computer software:		
Concentrating:		
Concentration:		
Concretes:		
Condensation:		
Condensing:		
Conducting polymers:		
Conduction:		
Conductivity:		
Conductors:		
Conjugated bridges:		
Conservation:		
Consolidation:		
Constitutive equations:		
Constitutive relationships:		
Construction materials:		
Contact angle:		
Contact melting:		
Contact resistance:		
Contact stresses:		
Contaminants:		
Contamination:		
Continuous annealing:		
Continuous casting:		
Continuous fiber composites:		
Continuum damage mechanics:		
Continuum mechanics:		
Controlled atmospheres:		
Controlled rolling:		
Cooling rate:		
Cooling systems:		
Coordination compounds:		
Copolymerization:		
Copolymers:		
Copper:		
Copper, Composite materials:		
Copper base alloys:		
Copper compounds:		
Copper oxides:		
Core-shell structure:		
Correlation analysis:		
Corrosion:		
Corrosion effects:		
Corrosion environments:		
Corrosion fatigue:		
Corrosion inhibitors:		
Corrosion mechanisms:		
Corrosion potential:		
Corrosion prevention:		
Corrosion products:		
Corrosion rate:		
Corrosion resistance:		
Corrosion resistant alloys:		
Corrosion tests:		
Corrosive wear:		
Corundum:		
Coulomb friction:		
Coupling agents:		

## Subject Index - 2004

Coupling coefficients:	6975	Cutting equipment:	2761
Covalent bonds:	3957	Cutting speed:	2761
Crack arrest:	2919	Cutting tools:	4705
Crack initiation:	335, 365, 369, 619, 687, 1071, 1267, 1283, 1389, 1703, 2399, 2543, 2617, 2811, 3057, 3383, 3483, 3619, 4821, 4841, 6529	Cyanides:	5339
Crack opening displacement:	2219	Cyclic loads:	365, 501, 687, 2689, 2927, 3593, 6817
Crack propagation:	73, 225, 365, 385, 587, 1061, 1081, 1283, 1389, 1721, 1795, 1967, 2543, 2617, 2629, 2789, 2841, 2919, 2923, 2979, 3063, 3619, 3751, 4199, 4309, 4339, 4821, 5987, 6473, 6529, 6555, 6791, 6813, 6817, 6901, 6951, 7089	Czochralski method:	4027, 5799
Cracking:	3569, 4637	Damage:	2211, 4321, 4821, 6173
Cracking (fracturing):	4321, 4809, 5959	Damage accumulation:	3115, 4199
Cracks:	2811, 2919, 7161, 7365	Damage assessment:	4199
Crashworthiness:	7395	Damage tolerance:	5995, 7023
Craters:	6271	Damping:	2959
Crazing:	2543, 4821	Damping capacity:	385, 3845, 6097
Creep:	4937	Data:	2919
Creep (materials):	225, 1377, 1647, 1967, 2577, 2593, 2877, 2919, 2979, 4073, 5599, 6623	Debonding:	433, 3383, 3619, 4821, 5357, 6791, 7049
Creep life:	3469, 6993	Debye temperature:	1241, 2887, 4627
Creep rate:	2053, 4199, 5091, 6555, 6993	Debye-Waller factor:	4627
Creep rupture strength:	369	Decay:	5263
Creep strength:	3383, 3465, 3957, 4199	Deceleration:	5567
Creep tests:	3465, 6555	Dechlorination:	5497
Cristobalite:	7031	Decomposition:	339, 2107, 2199, 3751, 4095, 4239, 4987, 5213, 6367, 6881
Critical current:	7125	Decomposition reactions:	5497
Critical point:	4977	Decoration:	2581
Critical pressure:	4937	Deep drawing:	757
Critical temperature:	385, 969, 1849	Defect annealing:	6353
Cross sections:	2827, 3641	Defects:	241, 2827, 2919, 3877, 4263, 4305, 5175, 5431
Crosslinking:	3513, 4353, 4615, 4721, 4913, 5135, 5275, 5547, 5647, 5689	Deflection:	5987
Crushing:	4701	Deformation:	1865, 2879, 3115, 4821, 4965, 5311, 5371, 5389, 5557, 6539, 6781, 6813, 6909, 7061, 7111
Cryogenics:	2851, 5275	Deformation mechanisms:	1283, 1849, 3047, 3281, 3569, 3577, 4869, 5135, 5155
Crystal defects:	3187, 3569, 4391, 4465, 4719, 5129, 5799, 7009, 7207	Degradation:	113, 1139, 3751, 3829, 3845, 5271, 5543, 6243
Crystal growth:	1485, 1677, 1857, 3445, 5567, 5799, 6145	Degree of crystallinity:	339, 1677, 3003, 6191
Crystal lattices:	2553, 3949, 4627, 5189	Degree of polymerization:	1609
Crystal structure:	377, 1357, 1433, 1499, 1665, 1671, 1683, 1743, 1751, 2107, 2357, 2371, 2523, 2937, 3235, 3281, 3469, 3871, 4027, 4035, 4185, 4359, 4363, 4391, 4587, 5129, 5143, 5155, 5161, 5283, 5347, 5393, 5399, 5403, 5435, 5451, 5477, 5483, 5527, 5747, 5785, 6145, 6183, 6325, 6385, 6599, 6781, 6909, 6965	Dehumidification:	1315
Crystallinity:	3257, 3577, 4239, 5195, 5695, 6591, 7049	Dehydration:	3015, 3095, 6611
Crystallites:	2937, 3577, 3683, 5023, 5091, 5201, 5235, 5747, 6057, 6333, 6591, 6781, 7041	Delaminating:	289, 1389, 1419, 2789, 2855, 4119, 4339, 4637, 4809, 5209
Crystallization:	51, 159, 925, 1037, 1173, 1249, 2017, 2175, 2357, 2443, 2499, 2509, 2589, 2601, 2821, 2931, 3095, 3525, 3853, 3927, 3941, 3985, 4367, 4917, 5147, 5325, 5483, 5551, 5567, 5743, 5771, 6141, 6257, 6291, 6325, 6433, 6539, 6839, 6847, 7351, 7397	Demagnetization:	477
Crystallography:	3871, 4363, 5987, 7009	Dendritic structure:	215, 1109, 1527, 2569, 2795, 6379, 7009, 7207, 7213
Cubic lattice:	3, 1935, 2585	Densification:	133, 711, 1017, 1085, 1143, 1213, 1589, 1943, 2205, 2539, 3787, 3801, 5719, 5785, 5825, 6017
Curie temperature:	451, 1785, 1831, 3739, 3941, 5267, 5299, 5385, 6145	Density:	3, 1195, 1213, 2865, 3659, 3683, 4835, 4893, 5097, 5343, 6643, 7019, 7237
Curing:	1331, 1791, 2457, 4631, 4901	Density measurement:	265
Current carriers:	3241	Dental materials:	3141, 3493, 4631
Current density:	3391, 3517, 4063, 4373, 6863, 7125	Deoxidizing:	6577, 6975
Current voltage characteristics:	7153	Depolymerization:	4593
Currents:	2937	Deposition:	3853, 4235
Curvature:	4633, 4799	Depth profiling:	4263
Cutting:	7003	Desiccants:	1315
		Desiccation:	6611
		Desorption:	61, 1315, 1557, 5243, 5259, 7101
		Detergents:	7317
		Deterioration:	2629, 5537, 6857
		Development:	2965
		Devices:	3, 2865, 2873, 2879, 2901
		Devitrification:	51, 2175, 3927, 5483
		Diamagnetism:	4271
		Diamond films:	1135, 5809, 6603
		Diamond pyramid hardness:	943, 1085, 1169, 2145, 2219, 2509, 3057, 5295
		Diamond-like carbon films:	3309
		Diamonds:	445, 1571, 1665, 1865, 4957
		Die steels:	519, 637, 5625, 6981
		Dielectric constant:	151, 291, 1087, 1277, 1397, 1765, 1883, 2755, 2997, 3129, 3695, 3739, 4319, 4335, 5291, 5431, 6523, 6577
		Dielectric properties:	925, 1903, 2873, 3779, 4319, 4325, 4373, 4953, 7093
		Dielectric relaxation:	4651
		Dielectrics:	181, 315, 1233, 1571, 2755, 2835, 2873, 2955, 3487, 4067, 4319, 4977, 6639
		Diels-Alder reactions:	4995
		Differential scanning calorimetry:	6433, 7229

Differential thermal analysis:	3095, 6299	Dynamic tests:	3179, 3479, 3593
Diffraction:	3913	Dynamical systems:	3839
Diffusion:	1535, 3187, 3365, 3425, 3927, 4107, 4199, 4719, 5011, 5023, 5057, 5091, 5135, 5743, 6599, 6615, 6645, 6687, 6723, 6987, 7207, 7213, 7303	Dynamics:	3677, 5319, 5557
Diffusion bonding:	3041	E glass:	1425, 1887, 5633
Diffusion coating:	2099	Earth atmosphere:	3901
Diffusion coefficient:	3397, 3413, 4247, 4475, 5803	Eddy current testing:	3787
Diffusion effects:	4675	Edge dislocations:	5135
Diffusion layers:	4211, 5583	EDM electrodes:	6981
Diffusion rate:	3913, 4247, 4855, 5091, 5201, 7303	Elastic anisotropy:	5511
Diffusion welding:	1125, 2327	Elastic constants:	939, 951, 2887, 4131, 4809, 4937, 4965, 5287
Diffusivity:	4247, 4325, 5091	Elastic deformation:	4965, 5573
Dimensional stability:	3245	Elastic waves:	3057, 6791
Dimpling:	4841	Elasticity:	385, 539, 2121, 4081, 4263, 4575, 4671, 7365
Dip coatings:	2915	Elastomers:	1919, 7361
Dipole moment:	4235	Elastoplasticity:	4157
Dipoles:	4067, 6083	Electrets:	4651
Dipping:	851, 4669	Electric appliances:	1113
Direct current:	3, 2865, 4441	Electric arc furnaces:	637
Directional solidification:	1527, 2011, 2557, 2569, 7199, 7207, 7285	Electric arc melting:	7145, 7161, 7175, 7193
Directionally solidified eutectics:	3975, 4933, 5987, 6571	Electric batteries:	703, 727, 1077, 1105, 2565, 2897, 2901, 4001, 4697
Discharge:	5031	Electric cables:	3487, 4301
Disilicides:	3203, 4507	Electric charge:	4655
Disintegration:	5467	Electric circuits:	645, 3537, 4373
Dislocation density:	619, 3865	Electric contacts:	3241
Dislocation loops:	3593, 6349	Electric current:	4005
Dislocation mobility:	5129	Electric discharge machining:	4305, 6981
Dislocations:	107, 369, 1849, 1891, 2689, 4157, 4255, 5417, 6495, 6705, 6821, 6951	Electric discharges:	181, 3487, 4651, 6863
Dispersing:	2437, 3825, 6083	Electric field strength:	7081
Dispersion:	3149, 4633, 4921, 6133, 6851, 7397	Electric fields:	159, 1017, 1233, 1711, 2675, 3487, 3541, 4067, 4231, 6083, 6483
Dispersion hardening alloys:	4659, 5325	Electric heating:	969
Dispersions:	1845, 2891, 3339, 3629, 3739, 4921, 5031, 5143, 5569, 6043, 6291	Electric potential:	1367, 2811, 3487, 3537, 4001, 4373, 4405, 4605, 4905, 6083, 7153
Displacement:	2811, 3985, 4305, 5573, 5849	Electric power:	969
Dissimilar material joining:	593	Electric power generation:	1033, 3235
Dissimilar materials:	593	Electric vehicles:	703
Dissimilar metals:	1125	Electrical conductivity:	779, 1495, 1711, 1717, 1735, 1751, 1765, 2395, 2573, 3241, 3509, 4325, 4441, 5031, 5125, 5287, 5343, 6137, 6821
Dissolution:	571, 1371, 1557, 1677, 2357, 2487, 4219, 4379, 4383, 5357, 5441, 5543, 5803, 6233, 6495, 7229	Electrical properties:	315, 457, 2547, 2873, 3171
Distortion:	4301, 5639	Electrical resistance:	251, 2573, 3717, 6227
Distribution:	2717	Electrical resistivity:	3, 2865, 3129, 3241, 3877, 4569, 4931, 4937, 6299, 6483, 7031
Divacancies:	919	Electro-optics:	3445, 4363, 6577, 6639
Domain walls:	1367	Electrocatalysis:	5845
Donors (electronic):	3201	Electrochemical impedance spectroscopy:	4475
Dopants:	4855	Electrochemical oxidation:	6851
Doping:	1135, 1305, 1819, 1837, 3149, 4027, 5051, 6353	Electrochemistry:	4451
Drag (hindrance):	5135	Electrochromism:	3541
Draw ratio:	1609, 6909	Electrode materials:	3105, 4005, 4313, 4697, 5271, 5379, 5653, 5853
Drawability:	1849	Electrodeposition:	495, 2915, 3249, 5747, 6347, 6607
Drawing:	3889	Electrodes:	2811, 3149, 3487, 3793, 4647, 5239, 5263, 7161
Drills:	2941	Electroless copper plating:	2215
Drop size:	3647	Electroless nickel plating:	1927
Droplets:	4633	Electroless plating:	1879, 2955, 3241
Drugs:	5117	Electroluminescence:	1405, 1407
Drying:	663, 2481, 4045, 4669, 5051	Electrolysis:	5779
Dual phase steels:	4393	Electrolytes:	235, 311, 703, 1221, 1429, 2493, 2897, 2901, 2965, 4313, 4647, 5031, 6937, 7097
Ductile brittle transition:	1727, 1727	Electrolytic cells:	5361
Ductile fracture:	6561	Electromagnetic fields:	2935
Ductility:	369, 1437, 1441, 1477, 1481, 1727, 1727, 1849, 2593, 2767, 2851, 2927, 3115, 3975, 5287, 5537, 5599, 6619	Electromagnetic induction:	7245
Ductility tests:	6555	Electromagnetic shielding:	2215, 6209
Duplex stainless steels:	2371, 7101	Electromagnetic stirring:	7183, 7285
Duplex stainless steels, Mechanical properties:	67	Electromagnetism:	7175
Durability:	113, 1081, 1987, 3717, 4729, 4909, 6073, 7019, 7097, 7351	Electromotive forces:	4001
Dust filters:	5111	Electron beam processing:	329
Dye lasers:	4017	Electron beam welding:	1779, 6813
Dynamic mechanical properties:	1887, 3121, 3479, 3733, 7333	Electron beams:	1459
Dynamic properties:	3179, 5045	Electron conductivity:	319, 2965
Dynamic recrystallization:	1153, 7061	Electron distribution:	4995
Dynamic response:	3479	Electron energy:	6655
Dynamic structural analysis:	6757	Electron energy loss spectroscopy:	2911
		Electron microscopes:	6735
		Electron microscopy:	3525, 6215
		Electron paramagnetic resonance:	193, 2349
		Electron probes:	6687
		Electronegativity:	7019
		Electronic assemblies:	4379

## Subject Index - 2004

Electronic devices:	3, 683, 867, 867, 1095, 1495, 1853, 2215, 2645, 2865, 3773, 4295, 4373, 6227	Excitation:	2717, 4017, 5581
Electronic devices, Bonding:	165	Excitation spectra:	6303
Electronic packaging:	4335, 4659, 6125	Excitons:	2717
Electronic structure:	3957	Exfoliation:	119, 293, 1919, 6583, 7333
Electronics:	3217, 3257	Exothermic reactions:	5147, 5325, 6111
Electrons:	3, 2865	Expert systems:	5403
Electrophoresis:	895	Explosive compacting:	5169
Electrophoretic deposition:	769, 771, 779, 787, 803, 813, 819, 825, 833, 839, 845, 851, 861, 867, 867, 881, 889, 895, 903, 1017, 1845, 4235, 4961, 5603, 7081	Explosive welding:	6457
Electroplating:	753	Explosives:	1255
Electroplating:	4063, 5779, 5809	Exposure:	1547, 4877, 6079, 6965, 7031
Electrorheological fluids:	3457, 6083	Extraction:	5339
Electroslag melting:	637, 7275	Extractive metallurgy:	5097
Electroslag refining:	5599	Extreme environments:	5, 6675
Electrospraying:	1029	Extrusion:	5295, 6839
Electrostatic coating:	4067	Extrusion molding:	463
Electrostatic fields:	1803	Extrusions:	6069, 6561
Elongated structure:	133, 511	Fabrication:	3211
Elongation:	99, 433, 655, 747, 1721, 2295, 3281, 3759, 4495, 4615, 6555, 6591, 7023, 7061	Fabrics:	557, 851, 7317
Embossing:	4903	Face centered cubic lattice:	911, 3593, 4543
Embrittlement:	925, 4869	Face centered cubic lattices:	5023, 5385, 5441, 5701
Emission spectra:	2717	Fading:	3635
Emittance:	4017	Failure:	1425, 2053, 3487, 4185, 4675, 5633, 5939, 5951, 6555, 6561, 6885, 7049
Empirical analysis:	3175	Failure mechanisms:	3047, 3619
Empirical equations:	3179, 3213	Failure modes:	3047, 4729
Emulsion polymerization:	3069, 4921	Fatigue (materials):	289, 501, 2675, 2855, 4005, 4729
Emulsions:	5845	Fatigue cracking:	3889, 4821
Endothermic reactions:	5905	Fatigue failure:	335, 365, 385, 587, 687, 1081, 1389, 1795, 2617, 2979, 3063, 4309, 4821, 6791, 6813, 6817, 6901, 6951, 7089
Endurance:	6073	Fatigue life:	1, 1, 2577, 2617, 3469, 3889, 6253, 6901
Energetic particles:	6349	Fatigue limit:	335, 3537, 4373
Energy:	2879	Fatigue strength:	5, 335, 587
Energy absorption:	5873, 7395	Fatigue tests:	365, 587, 687, 1081, 1389, 1795, 2617, 2689, 2979, 3469, 4821, 6253, 6951
Energy density:	2901	FCC metals:	6349
Energy distribution:	3949	Feathers:	939
Energy gap:	1935	Ferrimagnetism:	5057
Energy gaps (solid state):	6303	Ferrite:	1129, 2371, 3733, 3949, 7101
Energy of formation:	3839, 4849, 5201, 6349, 6365	Ferrites:	451, 1773, 2037, 3787, 4655, 5045, 5057, 5103, 5151, 5161, 5517, 6227, 6847
Energy of solution:	4017	Ferritic stainless steels:	839, 1815, 4103, 4521, 5371, 6253, 6271
Energy release rate:	4013	Ferritic transformations:	1129, 4009
Energy requirements:	4683	Ferroboron:	3723
Energy transfer:	4017, 4971, 5837	Ferroelectric domains:	4905, 4953
Enthalpy:	1869, 4255, 5189, 5407, 6483, 7229, 7237	Ferroelectric materials:	1805, 2873, 2937, 3129, 4005, 4013, 4235, 4931, 4953, 5267, 5299, 6871
Entropy:	1535, 2315, 2529, 6365	Ferroelectricity:	1827, 2755, 2873, 2937, 3129, 4235, 6523
Entropy of solution:	6483	Ferromagnetic materials:	5057, 5701
Environmental impact:	5097	Ferromagnetism:	5445
Environmentally assisted cracking:	3889, 4675	Ferrous alloys:	457, 593, 593, 1007, 1207, 2523, 3469, 4113, 4219, 5023, 5139, 5147, 5255, 5407, 5425, 5441, 5445, 5523, 5599, 6291, 6623
Epitaxial growth:	361, 4905, 4953	Fiber composites:	969, 1081, 1411, 1425, 1647, 1727, 1809, 2121, 2855, 2923, 5603, 6631
Epitaxial layers:	5817, 6353, 6861	Fiber orientation:	2481, 3619
Epitaxy:	4953	Fiber pull out:	6069
Epoxy matrix composites:	4481, 4721, 6487, 7049, 7333	Fiber reinforced plastics:	3619, 6069
Epoxy resins:	265, 289, 1411, 1437, 1703, 2159, 2263, 2629, 2905, 2989, 3413, 3487, 3817, 4475, 5861, 6383	Fiber technology:	3003, 5563
Equal channel angular extrusion:	3759	Fiber volume fraction:	4103
Equal channel angular pressing:	733, 5311, 5659, 7107	Fiber-matrix adhesion:	289, 1887, 3619
Equations of state:	4371	Fibers:	1511, 2775, 2959, 3003, 7317
Equiaxed structure:	215, 2795, 7023, 7207	Fibrillation:	6529
Equivalent circuits:	6523	Fibrous structure:	3003
Erbium:	3641	Field corrosion tests:	975
Erosion control:	3849	Field effect transistors:	4005
Erosion mechanisms:	3849	Field effects:	159, 2935, 4231, 4719
Erosion rate:	3849	Field strength:	1017, 2675, 7019
Erosion resistance:	4179	Fields:	2879, 2951
Erosion-corrosion:	975	Figure of merit:	993, 6577
Esterification:	3549, 6083	Filament winding:	3763
Esters:	6843	Filament wound construction:	3763
Etching:	3257, 3309, 4669	Filaments:	2645, 6781
Ethers:	5547	Filled plastics:	265, 695, 1459, 1813, 3293, 3475, 4441, 5561
Ethylene vinyl acetates:	1751, 4301	Filler metal:	4587, 5587
Ettringite:	3015		
Europium:	2237		
Eutectic composition:	1449, 4933, 5333		
Eutectic temperature:	215, 1449, 7003		
Eutectics:	1109, 4037, 4379		
Evaporation:	1117, 2869, 3683, 3739, 3767, 3833, 4877, 6111, 6723, 6847		
Evolution:	2821		
Exact solutions:	4013		
Excimer lasers:	6121		

Fillers:	5541	Friction stir welding:	5139, 5613
Film growth:	5771	Friction welding:	1689
Film thickness:	4799, 4809, 6655, 7327	Frictional wear:	1125
Films:	3, 2865, 2897, 3717	Fuel cells:	6, 235, 769, 819, 825, 833, 1507, 2227, 4647, 4923, 5503, 6371
Filtration:	6631	Fuel consumption:	4367
Fine structure:	445, 1065, 1131, 4893, 5231, 5659, 5683, 6057	Fullerenes:	4119
Fineness:	557, 3449	Functional groups:	1173
Finite element method:	385, 2121, 3089, 3191, 4575, 4637, 5311, 5365, 5939, 6885, 7183	Functionally gradient materials:	769, 803, 1025, 1055, 5607
Fire resistance:	4721	Fungi:	5869
Firing:	251, 4367, 6675	Furnaces:	3483
First Principles:	3957, 5067	Fused deposition:	4575
Flame propagation:	6421	Fused salts:	3445
Flame retardants:	1075, 1919	Gadolinium:	1743
Flame spraying:	2783	Gadolinium base alloys:	2233, 3433
Flammability:	4301	Gadolinium oxides:	6371
Flattening:	1473	Gadolinium phosphate:	2017
Flaw detection:	6791, 7365	Gallates:	7067
Flax:	331	Gallium arsenide:	323, 631, 2637
Flexibility:	1297, 2629, 3839, 4481, 4671, 6827, 7097	Gallium arsenides:	5581, 7115
Flexing:	6173	Gallium base alloys:	1065
Flexural strength:	3319, 5939, 6311, 6965	Gallium compounds:	1405
Flexure:	3121	Gallium nitrides:	3217, 5817, 6343, 6353
Flight conditions:	5905	Gallium oxides:	3461
Flight test vehicles:	5905	Gamma rays:	2423
Flint:	6221	Gas atomization:	5877, 6101
Flocculating:	119, 1017	Gas flow:	6627
Flow velocity:	7285	Gas phases:	3187, 5435
Fluid dynamics:	3449, 6083	Gas pressure:	4593
Fluid flow:	3449, 5435, 6083	Gas storage:	1799
Fluorescence:	181, 3641, 4971	Gas turbine engines:	1639, 1823, 2927
Fluorination:	5613	Gas turbines:	3469, 3935, 6173, 7259
Fluoropolymers:	1827	Gasification:	6263
Flux:	1445, 6449, 6867	Gear pumps:	2113
Fly ash:	571, 1677, 6619	Gears:	6791
Foamed metals:	1143, 3085	Gelatin:	5547, 6473
Foaming:	3085, 4913, 5647	Gelation:	285, 3767
Foaming agents:	1143	Gels:	4017, 4343, 6473
Foams:	1503, 3513, 3659	Geocomposites:	4721
Foil:	3199, 4157	Geothermal resources:	4021
Food:	6473	Germanates:	3641
Food preparation equipment:	2761	Germanium:	5071
Food processing:	3453	Germanium base alloys:	6141
Forging:	4849	Germanium compounds:	5213
Forgings:	7253	Germanium compounds, Composite materials:	319
Formability:	1477, 1481, 2465, 2617, 6467	Germanium oxides:	3163
Forming:	5647	Gibbs free energy:	3805, 6483
Formulas:	2873	Glass:	193, 373, 1717, 1879, 2145, 2219, 2399, 2573, 2883, 2955, 3141, 3641, 4325, 4335, 4345, 4387, 4631, 4971, 5857, 6361, 6643, 6827
Fossil fuels:	4405	Glass ceramics:	51, 605, 605, 1433, 2175, 2499, 2509, 2601, 3533
Fouling:	5613	Glass fiber reinforced plastics:	401, 1419, 1791, 1887, 2081, 2855, 3563, 4637, 5633, 6073, 6529, 7365
Fourier analysis:	7041	Glass fibers:	6539
Fourier transforms:	5841	Glass formation:	3965, 5067, 5591, 6433, 6945, 7351
Fractal analysis:	3487	Glass transition temperature:	1255, 1499, 1717, 1987, 2499, 3783, 5361, 6141, 6539, 6885, 7019
Fractography:	73, 4841, 4869	Glass-epoxy composites:	3479
Fracture mechanics:	747, 1071, 1113, 1283, 2399, 2543, 2979, 3057, 3063, 3369, 3483, 3493, 3619, 4073, 4199, 4543, 4575, 4809, 4821, 4829, 4841, 4869, 5155, 6173, 6473, 6791, 6867, 6909, 6951, 6981, 7111	Glassy carbon:	5497
Fracture strength:	73, 3751, 4339	Glazes:	5755
Fracture surfaces:	3619, 4543, 4829, 6473	Gloves:	7361
Fracture toughness:	73, 225, 1113, 1267, 1419, 1437, 1571, 1703, 2605, 2629, 2789, 2855, 2895, 3375, 3619, 3733, 3839, 3849, 3975, 4073, 4305, 4335, 4515, 4809, 4821, 5765, 5951, 5987, 6069, 6173, 6389, 6529, 6909, 7119	Glycols:	4459, 6129, 7097
Fracturing:	99, 271, 1425, 1653, 2131, 5135, 5189	Gold:	2171, 2327, 5217, 6291
Fragmentation:	2905, 5011, 6271	Gold, Bonding:	165
Free energy:	649, 2033, 2315, 5613	Gold compounds:	6125
Free radical polymerization:	1913, 3221, 4295	Graft copolymers:	4353
Free radicals:	4459	Grafting:	3221, 3261, 3403, 3475, 3825
Freeform fabrication:	1029	Grain boundaries:	3, 445, 1033, 1481, 1579, 1831, 1967, 2257, 2371, 2593, 2865, 3425, 4199, 4543, 4931, 5023, 5031, 5051, 5825, 6129, 6215, 6371, 6523, 6655, 7023
Freeze-thaw:	3319	Grain boundary migration:	2327, 4855
Frequencies:	2037, 2755	Grain boundary segregation:	5003, 6551, 6687
Frequency:	6227	Grain growth:	445, 861, 997, 1773, 1871, 2417, 2553, 3613, 3801, 3927, 4157, 4231, 5659, 5701, 5765, 5785, 5825, 6723, 7061, 7107
Frequency ranges:	6209	Grain orientation:	3089, 5311, 6215, 6687
Fresnoite:	1433	Grain refinement:	733, 1481, 1871, 2851, 2861,
Fretting:	7089		
Friction:	557, 641, 1481, 1499, 2761, 2989, 3241, 3453, 3817,		

## Subject Index - 2004

	3733, 3759, 5659, 6153, 7107	High temperature research:	3975
Grain size:	451, 707, 987, 1153, 1259, 1437, 1481, 1515, 1721, 1849, 1853, 2593, 2861, 3057, 3089, 3613, 3801, 4009, 4157, 4171, 4543, 5003, 5023, 5081, 5103, 5231, 5305, 5353, 5379, 5385, 5425, 5441, 5511, 5701, 6017, 6183, 6957, 7023, 7061, 7107, 7379	High temperature superconductors:	3517, 5097
Grain size distribution:	833, 2553	Hinges:	6855
Grain structure:	133, 707, 1259, 2861, 3079, 3129, 3871, 5365, 5659, 6723, 7101, 7175, 7253	Historical artifacts:	2767, 7317
Grains:	2755, 6675	Histories:	3863
Granular materials:	1213	Hole conductivity:	3777
Granulation:	1527	Homogeneity:	4057, 4397, 5227, 5305, 5669, 6871, 2561, 2851, 5231, 3927, 6379
Graphite:	1213, 2263, 2645, 2989, 3241, 3659, 4957, 5175, 5451, 6093, 6215	Homogeneous structure:	5231
Graphite fibers:	4179	Homogenizing:	4575
Graphite-epoxy composites:	3253	Honeycomb construction:	4965
Graphitic structure:	3659, 1213	Honeycomb structures:	5803
Graphitization:	4593	Hot dip galvanizing:	127, 1477
Gray iron:	295	Hot extrusion:	6399
Gray iron, Mechanical properties:	4405	Hot isostatic pressing:	1589, 5169, 5295, 5343, 5425, 5865, 5925, 5951, 1477, 4009, 4679, 5599, 6623
Greenhouse gases:	2365, 3207, 3339, 3449, 5031, 5051, 5117, 5189, 5223, 5239, 5243, 5455, 5467, 5477, 5527	Hot pressing:	623
Grinding:	2941	Hot rolling:	519, 6981
Grinding mills:	2131	Hot work tool steels:	5557, 6623
Grinding wheels:	4903	Hot working:	845, 1481, 3509
Grooves:	6687	Humidity:	1491, 2573, 3151, 4131, 6529, 6619
Grooving:	5905	Hybrid composites:	7395
Ground tests:	2919, 2937	Hybrid structures:	5873
Growth:	5869	Hybrid systems:	4627, 6325
Gypsum:	5995, 6057	Hydrates:	997, 2191, 4021, 4977, 5841, 6611
Hafnium carbide:	1975, 5081, 5887, 5925, 5939, 5959, 5969, 6023, 6043, 6051	Hydration:	6259
Hafnium compounds:	319, 3217	Hydrides:	5259
Hall effect:	5111	Hydrocarbon fuels:	5905, 5915
Halogenation:	5471	Hydrocarbons:	5111
Halos:	1689, 2577, 3865, 6495	Hydrochloric acid:	5633
Hardening:	85, 99, 295, 619, 933, 1185, 1331, 1579, 1593, 1653, 2365, 2423, 2535, 2539, 3057, 3375, 3605, 3849, 4255, 4331, 4465, 4553, 4705, 4849, 5425, 5533, 5849, 5925, 5987, 6389, 6503, 7333	Hydrodynamics:	7145
Hardness:	1791, 3175, 4515	Hydrogels:	1861, 5669
Hardness tests:	3329	Hydrogen bonding:	2171, 3413, 67, 1523, 3889, 4193, 4675, 6623
Harmonics:	4941	Hydrogen embrittlement:	5235
Health:	7119	Hydrogen reduction:	61, 67, 1455, 1557, 1563, 3309, 5121, 5243, 5271, 5379, 6987
Heat affected zone:	1689	Hydrogen storage:	1455, 3041
Heat balance:	3483	Hydrogen storage materials:	5503
Heat engines:	7245	Hydrogenation:	1455, 3041
Heat loss:	1869	Hydrolysis:	707, 761, 1841, 1887, 2227, 2531, 2589, 2663, 2683, 4367
Heat of formation:	7253	Hydrophobicity:	547, 3717, 5613
Heat of fusion:	4255	Hydrostatic extrusion:	5511
Heat of mixing:	6253, 6551	Hydrostatic pressure:	1085, 4119
Heat resistant steels:	3659, 4179, 4387, 4633, 5925, 5939, 6981, 7237	Hydrostatics:	6645
Heat transfer:	4049, 5195, 5995, 6243, 6257, 6881	Hydrothermal reactions:	6, 675, 1841, 2625, 2821, 2931, 4239, 4711, 4923, 4977, 5603, 5611, 6439, 4039, 4697, 5779
Heat treatment:	1101, 1445, 5051	Hydroxides:	339, 1029, 1337, 1411, 1895, 2205, 2357, 2531, 3221, 3605, 4031, 4185, 4309, 4961, 5547, 5669, 5711, 5747, 5865
Heating:	99, 1227, 3391, 3521, 4035, 4049	Hydroxyapatite:	5445, 5523
Heating effects:	3521, 6361, 6929, 7379	Hyperfine structure:	5887, 5915
Heating rate:	6735	Hypersonic flight:	5915
Heavy elements:	2365	Hypersonic flow:	5, 5915
Hematite:	711, 2257, 5407	Hypersonic vehicles:	6847
Heterogeneity:	2597	Hypervelocity:	6271
Heterogeneous structure:	3525, 4005, 4905, 5817, 7115	Hypoeutectoid structures:	1849
Heterostructures:	3759, 5441	Hysteresis:	477, 1233, 1773, 2233, 2675, 2755, 3155, 3391, 3509, 3787, 6523
Hexagonal cells:	4035	Ice:	225
Hexamethylenetetramine:	7269	Ignition:	5487, 6375
High alloy steels:	1367, 4679, 5625	Ignition temperature:	5227
High carbon steels:	587, 687, 2617, 6253, 6901	Image analysis:	469, 6183
High cycle fatigue:	1085	Image intensifiers:	4345
High pressure:	637, 6831, 7369	Immersion coating:	761, 1331, 4375
High speed tool steels:	1125, 2519	Immersion tests (corrosion):	6857
High strength steels:	4869, 4913, 6583	Immiscibility:	1173
High temperature:	3015	Immobilization:	4861
High temperature environments:	6863	Imogolite:	1799
High temperature plasmas:		Impact:	1113, 1153, 1419, 1791, 2263, 2855, 3733, 5873, 3849
		Impact angle:	3253
		Impact damage:	6885
		Impact loads:	2543
		Impact modifiers:	3253, 5959
		Impact resistance:	295, 369, 753, 1283, 1503, 2081, 2457, 2629, 2737, 4049, 6503, 7395
		Impact strength:	1081, 1173, 1283, 4821, 4869, 5959
		Impact tests:	

Impact velocity:	3849, 6173, 6271	Ions:	193, 2873, 2965
Impedance:	3155	Iridium:	4543, 6215
Impregnation:	1841, 3793	Iridium base alloys, Phases (state of matter):	299
Impurities:	107, 1665, 2423, 2443, 3913, 4543, 4669, 5031, 5185, 5411, 6303, 6333	Iron:	757, 933, 2303, 2365, 2783, 3025, 3949, 4009, 4877, 5071, 5161, 5353, 5411, 5421, 5461, 5735, 5799, 5803, 6233, 6503
In vitro testing:	373, 5865	Iron aluminides:	4193, 4219, 4383, 4849
In vivo testing:	1895	Iron and steel making:	7295
Inclusions:	335, 1437, 1865, 4219, 6449	Iron compounds:	2523, 4271, 4325, 5213, 5271, 5375, 5379, 5425
Indentation:	619, 745, 943, 1185, 1571, 1593, 1891, 2145, 2219, 2399, 2877, 2883, 3175, 4263, 4637, 5573, 5959, 5987, 7023, 7111	Iron oxides:	2783, 4877, 6921
Indium:	4263	Irradiation:	3265, 4971
Indium arsenide:	2637	Islands:	6291
Indium compounds:	675, 943	Isostatic pressing:	5825
Indium oxides:	6367, 6607	Isothermal annealing:	5551
Indium tin oxide:	895	Isothermal treatment:	5333
Induction melting:	5263, 7245	Isotherms:	3629
Industrial wastes:	4379	Isotropy:	6831
Inert atmosphere:	3365	J integral:	225, 6529
Inert atmospheres:	2365	Joining:	593
Infiltration:	1025, 6005, 6385	Joint geometry:	4729
Infiltration rate:	3141	Joints:	5915
Infrared detectors:	4363	Kaolinite:	571, 5357
Infrared spectroscopy:	2187, 5841	Keratin:	939
Infrastructure:	2973	Killed steels:	4231
Ingot casting:	6831, 6835, 7161, 7253	Kinetics:	3877
Inhibition:	6901, 7341	Kink resistance:	331
Injection molding:	413, 463, 5689	Kirkendall effect:	6125
Insulation:	3487, 5541	Lacquers:	6079
Integrated circuits:	3461	Lagranges equations:	3179
Integrity:	3497	Lamb waves:	7365
Interatomic forces:	6141	Lamellar structure:	445, 1489, 1721, 2625, 3281, 3433, 4171, 4521, 5471, 6093, 6571, 6929
Intercalation:	3151, 5031, 7333	Laminates:	769, 1081, 1337, 2263, 2855, 3063, 3253, 3465, 3479, 3563, 4339, 5371, 6087, 7365
Intercalation compounds:	119	Laminating:	867, 867, 3121
Interdendritic structure:	6379, 6993	Lances:	7003
Interface reactions:	141, 519, 605, 605, 667, 1337, 1875, 2451, 3689, 3941, 3957, 4211, 4219, 4475, 4587, 4921, 5491, 5727, 5803, 6821	Lanthanum:	1305, 2821
Interfaces:	3031, 3199, 4107, 4289, 4321, 4809, 5887, 6615	Lanthanum base alloys:	6987
Interfacial cracks:	4013	Lanthanum compounds:	825, 2675, 2821, 3207, 3509, 3779, 5517, 5987, 7067
INTERFACIAL PROPERTIES:	2897	Lanthanum oxides:	4063, 5527
Interfacial properties:	4829, 4933, 5091, 6069, 6153, 6457	Laplace equation:	3487, 7081
Interfacial shear strength:	289, 2473	Laser ablation:	329, 1091, 2869, 3821
Interfacial shear stresses:	173, 4481	Laser beam cladding:	6599
Interfacial strength:	2905, 3845, 7049	Laser beam cutting:	3821
Intergranular corrosion:	1033	Laser beam melting:	1195
Intergranular precipitation:	5537	Laser beam welding:	241, 6117
Intergranular structure:	4095	Laser deposition:	4289, 4553
Interlayers:	741, 741, 3345	Laser sintering:	1195
Intermediates:	1827, 4719	Lasers:	4027
Intermetallic phases:	165, 1343, 2371	Latent heat:	7229
Intermetallics:	593, 593, 1065, 1095, 1105, 1125, 1449, 1515, 1721, 1857, 2099, 2295, 2327, 2523, 2613, 2621, 2637, 3677, 3877, 3935, 3957, 3975, 4193, 4211, 4219, 4289, 4345, 4383, 4391, 4849, 4949, 5037, 5121, 5169, 5185, 5213, 5271, 5379, 5425, 5511, 5803, 6125, 6333, 6347, 6365, 6385, 6421, 6583, 6615, 6929	Laterites:	3471
Internal energy:	5103	Latex:	4921, 6383
Internal friction:	3845, 4379	Lattice parameters:	451, 719, 1467, 1515, 2529, 3079, 4627, 4905, 5139, 5385, 5523, 5799, 6333, 7067
Internal oxidation:	4659	Lattice vacancies:	2529, 4107, 6349, 6951
Internal pressure:	3425	Lattice vibration:	5139
Interpenetrating networks:	4615	Lattices:	3237, 3957, 4271, 5051, 5067, 5755, 6215
Interstitial free steels:	5311	Lava:	7003
Interstitials:	3949, 5011, 5135, 5411	Laves phase:	2523
Intrusion:	5711	Leaching:	5339, 5633
Investment casting:	7285	Lead (metal):	2747, 2767, 5353
Ion beam assisted deposition:	1907	Lead base alloys:	6571, 7285
Ion beams:	1857	Lead compounds:	1785, 2573, 2675, 2873
Ion engines:	4495	Lead oxides:	5267, 5591, 7085
Ion etching:	3569	Lead sulfides:	3025
Ion exchanging:	3745	Lead titanates:	4931, 4953, 6577, 6735, 7391
Ion implantation:	619, 3183, 3605, 4185	Lead zirconate titanates:	159, 1485, 1805, 2879, 3779, 4013, 5201, 5291, 5431, 6079, 6439, 6975
Ion propulsion:	4495	Leakage:	2937
Ionic conductivity:	235, 813, 1221, 1357, 2897, 2901, 5091, 6371, 6827	Least squares method:	2327
Ionic crystals:	5129	Leather:	2481
Ionization:	3901	Levitation melting:	1105
Ionomer resins:	4631	Liberation:	3793
		Lifetime:	1795, 2089, 3717
		Ligaments:	6855
		Ligands:	3201
		Light metals:	5507
		Light-emitting diodes:	3777
		Line shape:	6781
		Linkages:	3221

## Subject Index - 2004

Liquid crystal polymers:	2737, 3413, 4651, 6529	3141, 3375, 3689, 5573,
Liquid crystals:	679, 4045	6615, 6643, 6987
Liquid hydrogen:	2989	
Liquid metals:	7, 4219, 4633, 5803, 7245,	Mathematical models:
	7259, 7285	7, 881, 1071, 1441, 1621,
	2989	1639, 1831, 2053, 2553,
Liquid nitrogen:	1735, 3375, 3801, 5785	2597, 2877, 2919, 2923,
Liquid phase sintering:	2267, 3587, 4095, 5969,	2979, 3095, 3577, 3659,
Liquid phases:	6365, 6735, 7213, 7237	4593, 5121, 5135, 7145,
	2935	7153
Liquidus:	2935	Matrix cracks:
Lithium:	2897, 2901	6069
Lithium aluminate:	2429	Mean square values:
Lithium batteries:	5031, 5361	4627
Lithium borates:	5091	Mechanical alloying:
Lithium compounds:	357, 727, 1987, 2175, 3635,	127, 343, 357, 1557, 2231,
	5125, 6539	2365, 2523, 4659, 5011,
	2897	5023, 5057, 5071, 5081,
LITHIUM IONS:		5097, 5125, 5135, 5139,
Lithium niobates:	3187, 5799, 6145	5147, 5251, 5263, 5271,
Lithography:	2243, 5613	5279, 5283, 5287, 5305,
Load carrying capacity:	3183	5333, 5343, 5379, 5385,
Long range order:	3877, 5347	5399, 5407, 5411, 5425,
Loose powder sintering:	881, 6023,	5441, 5445, 5461, 5471,
Losses:	2755	5491, 5523, 6987
Lost foam casting:	1563, 4593	Mechanical engineering:
Low alloy steels:	3733	2543
Low carbon steels:	753, 757, 1367, 3733, 3821,	Mechanical measurement:
	4139, 4231, 4553, 4887	6311
Low cycle fatigue:	733, 2519, 2593, 2617, 2689,	Mechanical properties:
	2927, 6253	2901, 3475, 3521, 3809,
	4719	4031, 4393, 5019, 6153,
Low frequency:	4343	6855
Low temperature:	659, 2237	5247
Luminescence:	5905	Mechanoluminescence:
Mach number:	1081, 2509, 2855, 3137	5247
Machinability:	6399	Medicine:
Machining:	201	6631
Macroporosity:	7135	Medium carbon steels:
Macrostructure:	1455, 2535, 5037	1367, 2473, 5625, 6117
Magnesium:	51	Melamine formaldehyde resins:
Magnesium aluminum silicates:	463, 1081, 1477, 1557, 1647,	3245
Magnesium base alloys:	2617, 3759, 5155, 5251,	Melt blending:
	5569, 6153, 6375, 6449,	293
	7061, 7107	Melt spinning:
Magnesium base alloys, Reactions (chemical):	61	5155, 5483
Magnesium carbonate:	6591	Melt temperature:
Magnesium compounds:	1467, 1857, 3787, 4655,	6867
	4893, 5243, 5333, 5403,	Melting:
	6561	1371, 3689, 4957, 5213,
	2227	5577, 7401
Magnesium oxide:	6871	Melting points:
Magnetic alloys:	2557	695, 3985, 4379, 5561, 7221,
Magnetic anisotropy:	477, 1997	7351
Magnetic compression:	5231	Membranes:
Magnetic fields:	477, 861, 1129, 2011, 2233,	3041, 4647, 5603, 7097
	3517, 4719, 5129, 5385,	Mercury base alloys:
	5441, 7135, 7285	1147
	1321	Mesophase:
Magnetic films:	5255, 5379	1213
Magnetic materials:	3433, 3941	Metal coatings:
Magnetic measurement:	1997	2955
Magnetic measurements:	1129, 5385	Metal fibers:
Magnetic moment:	193, 2037, 5045	1727
Magnetic permeability:	457, 2951, 4917, 5139, 5533,	3, 2865
Magnetic properties:	6105	Metal films:
	6847	5873, 5877, 7395
Magnetic storage:	2365, 2633	Metal foams:
Magnetite:	451, 477, 987, 1321, 2233,	3041
Magnetization:	3433, 3941, 5045, 5057,	Metal foils:
	5385, 5523, 5701	5263, 5271
	683, 5701	Metal hydrides:
Magnetoconductivity:	3195, 3235, 3525, 4375,	5587
Magnetron sputtering:	4917, 5533, 5695, 7369	Metal joints:
	2231, 6121, 7387	501, 667, 1025, 1131, 1309,
Magnets:	3635	1759, 1875, 2121, 2795,
Manganates:	2303, 2821	2923, 2967, 3191, 3211,
Manganese:	5271	3689, 3723, 3845, 4179,
Manganese base alloys:	451, 1671, 3207, 5151, 5425	4683, 4829, 5169, 5231,
Manganese compounds:	6145	5325, 5735, 6005, 6153,
Manganese oxides:	1121, 1527, 2569	6503, 6781
Manganese steels:	1959	Metal matrix composites, Powder technology:
Manufacturing:	7295	127
Maraging steels:	5711	Metal matrix composites, Reactions (chemical):
Marine animals:	85, 1997, 3733	141
Martensite:	1815, 6551	Metal organic chemical vapor deposition:
Martensitic stainless steels:	3985	4375
Martensitic transformation:	1997, 2557, 4391	Metal oxides:
Martensitic transformations:	85	5455, 5491, 5853, 6043
Martensitic transformations, Magnetic properties:	5045	Metal powder:
Mass ratios:	7193	3629
Mass transfer:	3505, 5887	Metal powders:
Materials selection:	1913	4289
Materials substitution:	291, 1321, 1343, 2033, 2191,	Metal scrap:
Mathematical analysis:		5111
		Metallic glasses:
		2231, 3965, 3985, 5067,
		5743, 6433
		165, 4349
		Metallizing:
		3, 2865, 2955
		Metastable phases:
		1579, 2613, 3913, 3927,
		3985, 5389, 5407, 5483,
		5701, 6233, 6333, 7085
		6367
		Methylene blue:
		Methylsilsesquioxane-benzylsilsesquioxane:
		3965, 5037
		Microalloying:
		4913
		Microcellular foams:
		225, 1703, 1721, 2789, 3015,
		3383, 5247, 5511
		Microcracks:
		2879, 4013
		Microelectromechanical systems:
		3237, 4953, 5235, 6125
		Microelectronics:
		2633
		Microemulsion:
		2011
		Microgravity:
		241, 1169, 1259, 1689, 2145,
		2509, 3497, 3769, 4063,
		4521, 5295, 5399, 5959,
		6457, 6571
		Micromechanics:
		3281, 3501, 7049
		Microparticles:
		3237
		Microporosity:
		201, 1975
		Microscopy:
		6
		Microspheres:
		3513, 5647, 6847
		Microstrain:
		5477, 5747, 7041
		Microstructural analysis:
		303, 719, 997, 1055, 6385
		Microstructural effects:
		5019
		Microstructure:
		3, 6, 2865, 2873, 3249, 3457,
		3497, 3501, 3517, 3521,
		3613, 3723, 3809, 3853,

	3889, 3935, 3985, 4031,	Mullite:	1677, 1875, 3483, 3751
	4095, 4231, 4289, 4319,	Multi wall carbon nanotubes:	4941, 5771
	4335, 4393, 4397, 4405,	Multilayers:	349, 867, 867, 6121
	4507, 4515, 4533, 4605,	Music:	4139
	4679, 4705, 4829, 4849,	Musical instruments:	4139
	4861, 4877, 4893, 5161,	N-type semiconductors:	4005, 5653, 6343, 6353
	5169, 5235, 5325, 5343,	Nacre:	4961
	5365, 5379, 5399, 5533,	Nanocomposites:	293, 691, 769, 1919
	5557, 5599, 5735, 5743,	NANOCOMPOSITES:	2955
	5833, 5865, 5969, 5987,	Nanocomposites:	3151, 3211, 3457, 3817,
	5995, 6097, 6153, 6215,		4063, 4301, 4671, 4877,
	6233, 6257, 6389, 6467,		5169, 5175, 5235, 5251,
	6655, 6675, 6723, 6813,		5325, 5357, 5379, 5547,
	6831, 6863, 6867, 6909,		5861, 6105, 6121, 6133,
	6945, 6965, 6993, 7041,		6705, 7333, 7387
	7061, 7077, 7111, 7119,	Nanocrystals:	5103, 5389, 5743, 6577
	7125, 7193, 7199, 7259,	Nanofibers:	4605, 6137
	7401	Nanohardness:	3769
Microtubules:	1927	Nanoindentation:	3089, 3183, 3605, 3769,
Microwave plasmas:	3309		3797, 4013, 4465, 4533,
Microwave sintering:	3787		5849
Microwaves:	671, 1371, 1445, 4319, 5129,	Nanomaterials:	283, 1029, 1139, 1429, 1511,
	6361		1841, 1927, 2171, 2411,
Migration:	3877		2487, 2633, 2783, 2891,
Military aircraft:	5905		2915, 2951, 2955, 3003,
Military applications:	2577		3227, 3739, 3773, 3833,
Military planes:	5		4069, 4515, 5201, 5231,
Milling:	5275		5563, 5603, 5611, 6183,
Mills:	5223		6487, 6603, 6639
Mineral processing:	5097	NANOPARTICLES:	2955
Mineralogy:	3901	Nanoparticles:	3237, 3475, 3587, 3647,
Minerals:	4271		3821, 3825, 4119, 4353,
Miniaturization:	2879, 4363		4459, 4877, 5045, 5143,
Mining industry:	5217		5175, 5353, 5581, 5845,
Miscibility:	6945		5861, 6105, 6291, 6311,
Mixed carbides:	4553		6421, 7125, 7397
Mixed oxides:	3549	Nanorods:	895, 4643
Mixers:	5487	Nanostructure:	3, 2851, 2865, 3457, 3541,
Mixing ratios:	5051		3927, 4045, 4131, 4171,
Models:	2919		4701, 4711, 5003, 5023,
Modulus of elasticity:	745, 1185, 1241, 1267, 1297,		5051, 5057, 5081, 5091,
	1593, 1609, 1635, 2239,		5121, 5139, 5151, 5155,
	2481, 2887, 2895, 3057,		5161, 5185, 5255, 5271,
	3213, 3369, 3493, 3501,		5291, 5295, 5385, 5407,
	3605, 4157, 4379, 4495,		5411, 5417, 5425, 5431,
	5573, 5765, 5849, 5939,		5441, 5451, 5581, 6191
	6073, 7333	Nanotechnology:	4353
Modulus of rupture in bending:	839, 1213, 1411	Nanotubes:	1575, 1799, 2625, 3257,
Moisture content:	5683, 6945		4239
Moisture control:	5869	Nanowires:	4977
Molding parameters:	413	NASA:	4495
Molds:	7253	NASICON:	2965
Molecular beam epitaxy:	323, 819, 3217, 3235, 6343,	Natural polymers:	2081
	6353, 7115	Natural rubber:	649, 7361
Molecular composites:	4933	Near net shaping:	803, 1143, 6005, 6399
Molecular conformation:	5567	Necking:	433, 3115
Molecular dynamics:	2315, 5067	Neodymium base alloys:	1321, 2231, 5379, 6121,
Molecular orbitals:	4995		6509, 7387
Molecular sieves:	3227, 4069	Neoprene:	7361
Molecular structure:	4913	Networks:	3705
Molecular weight:	1695, 4627, 4631, 4913	Neutron diffraction:	3329, 6333, 6743, 6757
Mollusks:	6855	Neutron scattering:	6757
Molybdenum:	1153, 5067, 5217, 5287,	Nickel:	265, 477, 703, 757, 839,
	5461		1041, 1095, 1153, 2941,
Molybdenum compounds:	1241		3249, 3471, 3629, 4063,
Molybdenum disilicide:	787, 3769		4405, 5067, 5251, 5595,
Molybdenum disilicides:	4073, 5037		5719, 6209
Molybdenum disulfide:	1499	Nickel aluminides:	3957, 4289, 5169, 5511,
Molybdenum disulfides:	4119		6385, 6421
Molybdenum oxides:	3541, 4037, 5591	Nickel base alloys:	7, 605, 605, 655, 719, 1033,
Monitoring:	2211, 3839		1871, 1967, 1975, 2043,
Monoclinic lattice:	3, 1935, 2151, 2585		2257, 2295, 2557, 2561,
Monolithic materials:	5951, 5995		2593, 2689, 3345, 3383,
Monte Carlo methods:	3877		3677, 3957, 4199, 4383,
Montmorillonite:	293, 3151, 4301, 5209		5305, 5417, 6813, 6993,
Morphology:	2, 265, 307, 339, 413, 511,		7009, 7135, 7145, 7169,
	1007, 1051, 1221, 1249,		7175, 7199, 7207, 7229,
	1467, 1511, 1593, 1871,		7237, 7253, 7259, 7401
	2267, 2357, 2371, 2443,	Nickel base alloys, Microstructure:	369
	2531, 2727, 2827, 3079,	Nickel chromium alloys:	7111
	3105, 3227, 3249, 3257,	Nickel compounds:	1773, 3677, 4391, 5425,
	3413, 3487, 3659, 3745,		5809
	4045, 4119, 4239, 4271,	Nickel compounds, Electrical properties:	251
	4375, 4605, 4643, 4697,	Nickel hydrogen batteries:	5263, 5271
	4701, 4933, 5143, 5259,	Nickel molybdenum steels:	2519, 2605
	6093, 6137, 6191, 6243,	Nickel oxide:	2609
	6439, 6449, 6509, 6591,	Nickel oxides:	3339, 4375
	6631, 6781, 6839, 7373,	Nickel plating:	753
	7397	Nickel titanides:	4949
Mortars:	3319, 4987	Niobates:	1467, 1903, 3445, 6871
Mossbauer effect:	5045	Niobium:	5287, 5343, 5461, 5599,
Mossbauer spectroscopy:	6333		6583, 7169

## Subject Index - 2004

Niobium compounds:	1371	Oxyfluoride germanate glasses:	2223
Nitrates:	2821	Oxygen:	2755
Nitrides:	1853, 5939, 6023, 6043, 7369	Oxygen, Impurities:	361
Nitriding:	4521, 5785, 7101	Oxygen analyzers:	6881
Nitriles:	7361	Oxygen content:	4569, 6735
Nitrogen:	3201	P-type semiconductors:	3195, 4917, 5653, 6353, 6603
Nodular graphitic structure:	6093	Pack cementation:	7383
Nodular iron:	6093, 7119	Packaging:	1913, 6133
Noise levels:	6209	Paints:	2629, 3105
Nondestructive testing:	6183	Palladium:	867, 867, 1879, 2783, 4349
Nonlinear dynamics:	5857	Palladium base alloys:	3041
Nonmetallic inclusions:	7295	Palladium compounds:	5185
Notch strength:	4049	Paper:	4487, 7327
Notches:	4339	Papermaking:	4715
Nuclear fission:	3901	Paramagnetism:	5045, 5445
Nuclear fuels:	1869, 3533, 3821	Partial pressure:	2699, 4569, 6881
Nuclear magnetic resonance:	5711, 6743	Particle acceleration:	4067
Nuclear particles:	3901	Particle interactions:	5045
Nuclear power generation:	3235, 4675	Particle size:	303, 511, 987, 1255, 1437, 1735, 1773, 2267, 2365, 2411, 2417, 3471, 3593, 3647, 4271, 4363, 4631, 4949, 5031, 5045, 5057, 5213, 5299, 5451, 5467, 5719, 5755, 6975, 7067, 7327
Nuclear spin:	5129	Particle size distribution:	127, 357, 659, 1227, 2783, 2931, 3207, 3449, 3821, 4887, 5143, 5209, 5247, 5347, 5399, 6421, 6439, 6591, 6847
Nucleation:	51, 159, 339, 369, 1433, 1621, 1677, 1721, 1891, 2417, 2443, 2499, 2509, 2569, 2601, 2613, 3805, 3927, 4107, 4231, 4633, 4977, 5411, 5719, 6439, 7175, 7193, 7253	Particle trajectories:	3901
Nuclei:	1743	Particles:	2529, 2897
Numerical analysis:	711, 4441, 5319	Particulate composites:	667, 747, 1025, 1071, 1437, 1751, 1759, 1879, 2037, 2205, 2341, 2465, 2737, 2795, 2835, 2891, 2923, 2941, 2967, 3047, 3105, 3137, 3151, 3191, 3211, 3221, 3319, 3339, 3375, 3457, 3475, 3483, 3689, 3751, 3777, 3825, 3975, 4063, 4073, 4289, 4507, 4515, 4683, 4829, 4937, 5169, 5231, 5325, 5399, 5421, 5471, 5569, 5735, 5833, 5959, 6043, 6105, 6311, 6385, 6389, 6421, 6487, 6509, 6577, 6821, 6965, 6975
Numerical prediction:	3889	Particulate composites, Microstructure:	303
Nylon:	6509	Particulate composites, Powder technology:	127
Nylon 6:	1173, 2737	Particulate composites, Reactions (chemical):	141
Nylon 66:	6529	Passivation:	165, 1033, 4877
Nylons:	1491	Passivity:	5809, 7031
Octaves:	4139	Pastes:	2883
Offshore drilling rigs:	6073	Payloads:	5905
Oil quenching:	2473	Pearlite:	2569, 4679, 6503
Oils:	5541	Peeling:	6487
Opacity:	6257	Penetration depth:	2877, 6271
Open circuit voltage:	6303	Percolation:	265, 1751, 4441, 4937
Optical communication:	2879	Peritectic reactions:	2073, 7213
Optical fibers:	3799	Permanent magnets:	6509, 6847
Optical materials:	659, 1065, 1407, 2233, 4359	Permanent mold casting:	2023
Optical memory (data storage):	4005	Permeability:	451, 1363, 1919, 3041, 3413, 4593
Optical microscopy:	6675	Permittivity:	6523
Optical properties:	749, 961, 993, 2873, 2909, 3141, 3217, 3235, 4615, 4917, 6105, 6347	Perovskite structure:	159, 315, 1233, 1601, 1711, 2547, 2821, 3079, 4905, 4931, 5431
Optical transition:	3641	Perovskites:	2821, 2937, 3079, 3509, 4005, 5267, 5299, 5333, 5517, 6439, 7067, 7093, 7391
Optical waveguides:	3505	Peroxides:	3403
Optimization:	4405	pH:	1383
Optoelectronic devices:	3187, 5853	Phase assemblages:	3445
Optoelectronics:	4345, 7085	Phase boundaries:	3913, 5135, 6627, 6645
Order disorder:	1207, 5023, 5057, 5267, 7009	Phase decomposition:	2371, 2429, 2523, 2531
Ores:	5217	Phase diagrams:	51, 299, 911, 1007, 1017, 1857, 2253, 3913, 4037, 4957, 6299, 6645, 7213
Organic coatings:	4331, 4475	Phase matching:	4027
Organic compounds:	5435	Phase separation:	51, 2499, 3253
Organic fiber reinforced plastics:	2, 1051, 1887, 2159, 2961, 3121, 3245, 3403	Phase shift:	3129, 5435
Organic fibers:	6631	Phase stability:	1357, 1935, 2429, 2523, 3171, 3509, 3613, 4271, 4659
Organic semiconductors:	4465	Phase transformations:	1535, 1621, 1827, 2151, 2249, 2417, 2755, 2873, 3015, 3433, 4371, 5103,
Orientation relationships:	2151, 2371, 4521, 4587		
Oriented fiber composites:	2159, 2239, 3479, 3845		
Orthopedics:	6809		
Orthorhombic lattice:	1179, 6203		
Out of plane bending:	3369		
Overpressure:	7275		
Oxazole:	3587		
Oxidation:	581, 2183, 2699, 3199, 4309, 4349, 4921, 5195, 5451, 5477, 5517, 5583, 6291, 6635, 6965, 7031, 5887, 5969, 7303		
Oxidation rate:	5887, 5969, 7303		
Oxidation resistance:	329, 377, 1471, 1547, 2099, 3159, 4193, 4383, 4855, 5881, 5887, 5925, 5951, 6375, 6583, 7383		
Oxidation tests:	851, 5925, 6583		
Oxidation-reduction reactions:	6921		
Oxide coatings:	1033, 1547, 3689, 4171, 5779, 6017		
Oxides:	731, 747, 1383, 1943, 2349, 2767, 2883, 2897, 2909, 2937, 3199, 3493, 4313, 4569, 4687		
Oxides, Composite materials:	319		
Oxides, Electrical properties:	251		
Oxidizing agents:	3069, 7303		
Oxidizing atmospheres:	581, 1831, 2257		
Oxycarbides:	3513, 5647		

	5517, 5527, 5979, 5995, 6333, 6945, 7041, 7199, 7229, 7237, 7391		Poissons ratio:	2877, 2887, 3269, 3563, 4495, 4965, 5573
Phases (state of matter):	3329		Polarity:	813, 2033
Phenol:	1249		Polarization:	151, 2937, 2997, 3635, 4067, 4651, 4995, 5291, 5809, 6083, 6857, 7341
Phenolic resins:	641		Polarizers:	653
Phenols:	5455		Polarons:	4325
Phosphate coatings:	2357		Poling (orientation):	6975
Phosphate glass:	1371, 1987, 2175, 2205, 7019		Polishing:	4909
Phosphates:	285, 727, 1085, 4069, 6083		Pollutants:	5111
Phosphazene:	3201		Polyacrylamides:	6487
Phosphors:	771, 3529		Polyacrylates:	4, 649, 1415
Phosphorus:	2965, 3201, 6551		Polyacrylonitriles:	2959, 3365
Photocatalysis:	353, 699, 715, 761, 1139, 1305, 1837, 1899, 2663, 4239, 4349, 4977, 5695, 6367		Polyamide resins:	1173, 2629, 2737, 2989, 3619, 4331, 6069, 6529
Photochemical reactions:	4459		Polyanilines:	511, 1377, 1883, 3069, 3457, 4001, 4081
Photochemistry:	2891, 3767		Polybutyl methacrylates:	4615
Photoconductivity:	3587, 4053, 6303, 6343		Polycarbonates:	413, 433, 1297, 2905, 3249, 3257, 4605, 6137, 6639
Photodecomposition:	4977, 5695		Polycarbosilanes:	5881, 6243
Photoelectric materials:	3265		Polychlorinated biphenyls:	5111
Photoelectrochemistry:	5239		Polycrystals:	1233, 6203, 6227, 6723
Photography:	3773, 6631		Polyester resins:	557, 925, 1113, 2737, 2855, 2961, 3121, 4637, 6073
Photolithography:	3237		Polyetheretherketones:	1499, 2989
Photoluminescence:	631, 919, 2717, 2801, 2909, 3217, 5581, 6353, 7115		Polyetherimides:	1267, 1511, 2989
Photonic bandgap:	679		Polyetherketones:	6577
Photonic crystals:	6639		Polyethylene oxides:	4045
Photonics:	3773, 7373		Polyethylene terephthalates:	413, 433, 4049, 4651, 6069, 6839, 6909
Photopolymerization:	2801, 4353		Polyethylenes:	181, 413, 433, 1249, 1459, 1809, 3183, 3403, 3453, 3577, 3829, 6839, 7049, 7097
Photoreceptors:	3587, 4053		Polygonization:	3865
Photorefractivity:	3783		Polyimides:	1695, 4053, 4441
Photovoltaic cells:	1325, 1515, 2183, 2195, 4345, 6303		Polymer blends:	413, 433, 695, 1173, 1283, 1695, 1751, 1813, 2249, 2737, 4049, 5275, 5561, 5673, 6839, 7327
Photovoltaic effect:	2879		Polymer cements:	2973
Phthalocyanines:	723		Polymer matrix composites:	1249, 1437, 1499, 1593, 1703, 1919, 2989, 2997, 4081, 4671, 4921, 4937, 5541, 5617, 5669, 6105, 6509, 6937
Physical metallurgy:	4193		Polymeric precursors:	6051
Physical properties:	4957, 6105, 6855, 7237		Polymerization:	1, 293, 571, 1047, 1919, 3475, 4451, 4615
Physical vapor deposition:	1519, 1823, 1907, 2941, 3569, 4799, 4809, 5533		Polymers:	1, 703, 1429, 2243, 2457, 2877, 2897, 2901, 3003, 3105, 3505, 4647, 4729, 4903
Physicochemical properties:	961		Polymethyl methacrylates:	749, 993, 1297, 2897, 4921, 6383
Physics:	2873		Polymorphism:	3, 2183, 2585
Piercing:	7003, 7361		Polynomials:	3797
PIEZOELECTRIC ACTUATORS:	2879		Polyphenylene sulfides:	6509, 6937
Piezoelectric ceramics:	2879, 3445, 4013, 4027, 6079		Polypropylene oxides:	4045
Piezoelectric crystals:	2811		Polypropylenes:	1751, 1813, 2033, 2215, 2737, 2891, 3281, 3293, 3475, 3563, 3577, 5275, 5567, 6069, 6087
Piezoelectric transducers:	3839		Polypyrrole:	1883
Piezoelectricity:	2811, 2873, 2997, 3105, 3779, 5291, 5431, 6975		Polypyrroles:	4081, 4295, 4451, 6137
Pigments:	2581, 2629, 4487, 4909, 5755, 7327		Polysilanes:	2827, 5689
Pinning:	2443, 7125		Polysiloxanes:	3365, 4507, 4901, 4913
Pipe:	2789		Polystyrene:	1563
Pipelines:	3453		Polystyrene resins:	1, 1047, 1297, 2249, 2543, 4353, 5275, 5673, 6487
Pitting (corrosion):	2747, 5779, 6449, 6901		Polysulfides:	2629
Plagioclase:	5393		Polytetrafluoroethylenes:	2989, 5613, 6133
Plane strain:	4305		Polyurethane foam:	5541
Planetary mills:	5051, 5185, 5201, 5217, 5239, 5299, 5305, 5353, 5393, 5421, 5467, 5487, 5497		Polyurethane resins:	265, 1221, 1593, 1887, 2081, 2905, 3269, 4081, 4331, 4615, 4671, 5541, 6383
Plants (organisms):	529, 2465		Polyvinyl acetates:	2033
plasma arcs:	283		Polyvinyl alcohols:	653, 1609, 2465, 5669, 6133
Plasma spraying:	353, 1639, 4171, 5747, 6101, 7111, 7383		Polyvinyl chlorides:	293, 1463, 2789, 2897, 2901, 2979
Plasmons:	6141		Polyvinyl resins:	3151, 3773, 3783, 5837, 6105
Plastic anisotropy:	3935		Polyvinylidene chlorides:	1913
Plastic deformation:	433, 733, 1071, 1259, 1267, 1593, 1721, 2597, 2851, 3281, 3759, 3871, 4465, 5135, 5189, 5411, 5417, 5869, 5959, 6093, 6357, 6467, 7077		Polyvinylidene fluorides:	2997, 3839
Plastic flow:	943, 3115, 3677		Polyvinylidene resins:	1827
Plastic foam:	3269, 4913		Porcelain:	3493
Plastic properties:	4809		Porosity:	207, 215, 265, 451, 529, 731, 803, 839, 851, 1037, 1117, 1143, 1195, 1213, 1363, 1639, 2037, 2205, 2341,
Plasticity:	225, 1891, 2295, 3759, 3863, 4371, 4465, 4543			
Plasticizers:	2959			
Plastics:	2955			
Plate theory:	4013			
Platelets:	6263			
Plating baths:	1615, 1927, 4063, 5779, 5803			
Platinum:	747, 1507, 4349, 6523			
Platinum base alloys:	5845			
PN junctions:	353, 1819			
Point defects:	4157, 5135			
Poisson equation:	7081			

## Subject Index - 2004

	2775, 3057, 3141, 3149, 3199, 3213, 3339, 3397, 3501, 3549, 4045, 4335, 4575, 4631, 4893, 5247, 5399, 5511, 5683, 5711, 5785, 5877, 6005, 6129, 6209, 6379, 6473, 6591, 6723, 6821, 6851, 6993, 7259, 7275, 7303		
Porous materials:	285, 663, 1117, 3249, 3369, 3793, 4335, 4343, 4367, 4931, 4949		
Portland cements:	2191, 4021		
Positron annihilation:	919, 4263		
Potassium compounds:	107, 469, 1601, 2589, 3745, 4561, 4977		
Potassium niobates:	4027, 4359, 4905		
Potential:	2901, 2965		
Pouring:	1563, 5607		
Powder coating:	4701, 7111		
Powder compacts:	133, 2605, 3397, 5333, 5569, 6057		
Powder injection molding:	2113, 3397		
Powder metallurgy:	127, 3085, 4829		
Powder technology:	5181, 5209, 5403		
Power factor:	4569		
Power loss:	3187, 3787		
Power measurements:	3163		
Power supplies:	3787		
Pozzolanic materials:	4021		
Praseodymium:	1743		
Precipitates:	4521, 4533, 5343, 5537, 5547, 7401		
Precipitation:	51, 339, 369, 1653, 1659, 1759, 1861, 1871, 1895, 2257, 2303, 2357, 2371, 2443, 2589, 2593, 3207, 3339, 3357, 3517, 3587, 3927, 4035, 4039, 4131, 4271, 4521, 4711, 5023, 5287, 5825, 6233, 6311, 6495, 6561, 6591, 6945, 7061, 7101, 7229, 7259, 7295		
Precipitation hardening:	1579, 2253, 2535, 2861, 4533		
Precipitation hardening alloys:	1815		
Precipitation hardening steels:	3397, 4835		
Precision:	271		
Precursors:	2827, 3095, 3167, 3365, 3529, 3739, 4057, 4715, 5299, 5451, 6043, 6191, 7391		
Preferred orientation:	159, 933, 2195, 3079, 3525, 3871, 4375, 5747, 6215, 6871		
Preforms:	4715		
Preparation:	2755, 2909, 2955		
Preservation:	7317		
Pressing:	1773, 2761, 6005		
Pressure:	2821		
Pressure molding:	3397		
Pressure sensors:	4937		
Pressure vessels:	2519		
Pressure welding:	1125		
Pressureless sintering:	6023, 6057		
Pretreatment:	5339		
Printers:	2879		
Printing:	2581		
Process control:	7175		
Process parameters:	757, 813, 845, 1615, 2609, 3159, 3801, 4031, 4397, 4849, 5247, 6881, 6981, 7169, 7175		
Processes:	2965		
Processing effects:	457, 3801, 3809, 4829, 5275, 5477, 5523, 6615		
Projectiles:	6173, 6271		
Propellants:	4495		
Propulsion systems:	5905, 5979		
Propulsive efficiency:	5905		
Prosthetics:	4309, 5747		
Protective clothing:	5613, 7361		
Protective coatings:	329, 349, 377, 803, 1033, 1523, 1547, 1639, 1895, 1975, 2043, 2099, 2357, 2941, 4887, 5533, 5809, 6079, 7383		
Protons:	2493		
Pseudoelasticity:	4391		
Pseudoplasticity:	3339		
Pull out tests:	7049		
		Pulse plating:	1615, 6347
		Pulsed laser deposition:	2755, 2869, 3523, 3605, 4185, 6121, 7085
		Punching:	943
		Purification:	6367
		Purity:	4633, 7221
		Pyridines:	6089
		Pyrolysis:	6, 737, 1091, 1735, 1785, 2267, 2417, 2727, 2821, 2827, 3227, 3513, 3521, 3705, 3809, 4507, 4901, 4923, 5647, 6043, 6051
		Pyrolytic graphite:	5995
		Pyrrhotite:	5353
		Quantitative analysis:	4211, 5461, 6957
		Quantum dots:	5581
		Quantum efficiency:	2717
		Quartz:	2931, 5247
		Quasicrystals:	5399, 5483, 6101
		Quaternary systems:	1095
		Quenching:	4971, 5577, 6343, 6945, 6951
		Quenching (cooling):	2535
		Radiation crosslinking:	1459
		Radiation curing:	5689
		Radiation damage:	3901
		Radiation effects:	1459, 2423, 5689
		Radiative transfer:	4017
		Radicals:	4995
		Radioactive waste:	481, 2257, 3533, 4861
		Rail steels:	4305
		Rails (railroad):	4305
		Raman spectra:	6183
		Raman spectroscopy:	4371, 6781
		Random access memory:	2937
		Random noise:	7009
		Rapid manufacturing:	2457
		Rapid prototyping:	2457
		Rapid quenching (metallurgy):	5295
		Rapid solidification:	1639, 1871, 2613, 3985, 5147, 5483
		Rare earth compounds:	6227
		Rare earth metals:	1743
		Raw materials:	4359
		Rayleigh scattering:	3799
		Reaction bonding:	4901
		Reaction kinetics:	61, 581, 1455, 2099, 2747, 4211, 5023, 5071, 5097, 5121, 5161, 5243, 5259, 5319, 5353, 5403, 5487, 5503, 5633, 5803, 6965, 6987, 7303
		Reaction mechanisms:	1, 3, 61, 519, 667, 1047, 1131, 1899, 2073, 2179, 4705, 5071, 5097, 5195, 5259, 5319, 5435
		Reaction products:	4359, 5161, 5407, 5497, 5689, 5969
		Reaction time:	4239
		Reactions (nuclear):	4383, 5129
		Reactive ion etching:	3505
		Reactivity:	2183, 6023
		Reactors:	5487
		Recalcescence:	1871
		Recovering:	5339
		Recovery:	1997, 2033, 3391, 3865, 4231
		Recrystallization:	1259, 1871, 1997, 4231, 4719, 5311, 5365, 6467, 5111, 6097, 6449, 6839
		Recycling:	4459
		Reducing agents:	2257, 3751
		Reducing atmospheres:	2349, 3025, 5353
		Reduction:	1507, 3773
		Reduction (chemical):	5543
		Reduction (electrolytic):	5925
		Reentry effects:	5865, 6857
		Reference materials:	975
		Refineries:	3541
		Reflectance:	3799
		Reflection:	2835, 3641, 3683, 6577
		Refractivity:	1025, 1869
		Refractories:	4593, 4887
		Refractory coatings:	4683
		Refractory materials:	6051, 7145
		Refractory metals:	6571
		Regression analysis:	1081, 2855
		Reinforced plastics:	3155, 6937
		Relative humidity:	151, 1233, 2121, 2919, 2923
		Relaxation:	6577
		Relaxation time:	85, 1321, 5255, 5379, 7387
		Remanence:	241
		Repair welding:	

Repairing:	2973	Semiconductors (materials):	2879
Research:	2937	Semisolids:	7253
Research and development:	4193	Sensitivity:	3155
Residual strength:	4305, 6965	Sensor arrays:	3155, 5617
Residual stress:	501, 881, 2043, 2399, 2923, 3383, 3497, 3889, 5305, 5817, 6183, 6781, 6781, 6813, 6821, 7023, 7089	Sensors:	2107, 2211, 2965, 3105, 4953, 5239, 5673, 6079, 6723
Residues:	2821, 7317	Separation:	6233, 6383
Resin transfer molding:	1411, 1491, 2263	Setting:	4631
Resistance heating:	2645	Shakers:	5201
Resistivity:	3, 251, 265, 319, 451, 489, 695, 1213, 1325, 1653, 1765, 1785, 1831, 2037, 2699, 2865, 2897, 5561, 6129	Shape memory alloys:	385, 2557, 3391, 4391, 4949, 6857
Resonant frequencies:	4319	Shape memory effect:	3391
Response time:	5857, 5915	Shear:	4637, 7333
Reviews:	4081	Shear deformation:	5011, 5365
Rheocasting:	1653	Shear flow:	3805
Rheological properties:	539, 845, 1813, 6631	Shear rate:	2683, 4487, 5673
Rhombohedral lattice:	369, 2965	Shear strain:	5659
Rice:	5841, 6209	Shear strength:	1, 1, 1891, 6457
Rigidity:	557, 2629, 2887, 3577	Shear stress:	1153, 1477, 1891
Rinsing:	4669	Shear tests:	6457
Roasting:	1037, 2663, 3357, 4561, 4693, 4701, 5517, 5755, 6361, 7067	Shear viscosity:	3501, 6083
Rocket nozzles:	6005	Shearing:	5311
Rods:	5081	Sheet metal:	5371
Roll bonding:	1259	Shells:	6855
Roll cladding:	5371	Shielding:	3901
Rolling:	2465	Shock:	5139, 5151
Rolling direction:	1477, 5417	Shock loading:	1153, 4371
Rolling texture:	5371	Shock resistance:	727, 3483, 4335
Rotors:	2053	Short circuit currents:	6303
Roughness:	557, 1519, 1571, 1593, 1615, 2707, 2755, 3717	Short fibers:	2989, 3619, 4179, 6069, 6529
Rubber:	1813, 3319, 5625	Short range order:	5057
Rubbing:	4465, 6487	Shrinkage:	803, 1037, 1735, 2037, 2113, 2205, 2959, 3425, 4367, 5825
Ruthenium:	3237	Sialon:	3375
Ruthenium compounds:	2573, 3095, 4313, 4349	Sialons:	2145, 2237, 4855, 6257, 6655
Rutile:	3265, 3683, 5389, 7391	Silica gel:	1037, 1315, 1841, 5683, 6851
S N diagrams:	6253, 6901	Silica glass:	803, 2423, 3695, 3799
Safety:	4909	Silicates:	401, 605, 605, 1919, 4045, 4301, 4343, 4861, 5283, 5603, 6539, 7333, 7383
Salts:	2901	Siliceous refractories:	6675
Samarium:	1773	Silicides:	1857, 5315, 5471
Samarium base alloys:	3433	Silicon:	889, 919, 2443, 2755, 2909, 2923, 3031, 3155, 3199, 5071, 6523, 7369
Samples:	2965	Silicon, Coating:	361
Sand (material):	571	Silicon carbide:	173, 501, 691, 787, 803, 851, 889, 969, 1025, 1547, 1759, 2089, 2121, 2239, 2699, 2795, 2967, 3063, 3191, 3211, 3613, 3689, 3751, 3801, 4073, 4095, 4179, 4515, 4715, 4887, 5563, 5689, 5817, 5881, 5925, 5951, 5959, 5969, 5979, 6183, 6243, 6619, 6655, 6781, 6791, 6821, 6965, 7031, 7303, 7383
Sand casting:	2023	Silicon carbide, Composite materials:	303
Sandwich structures:	6087	Silicon carbides:	3137
Sandwiches:	2465	Silicon compounds:	3513, 3521, 5125, 5647
Sapphire:	377, 1853, 2911, 3217, 3235, 4107, 5817, 6343, 6353	Silicon dioxide:	377, 495, 663, 819, 845, 1117, 1363, 1547, 1593, 1677, 1683, 1819, 2037, 2341, 2499, 2509, 2601, 2801, 2835, 2955, 3475, 3549, 3683, 3717, 3817, 3825, 4013, 4017, 4909, 5613, 5849, 6221, 6371, 6523, 6523, 6743
Saturation:	7275	Silicon nitride:	593, 593, 741, 741, 787, 3159, 3849, 4013, 4587, 5477, 5785, 5979, 6173, 6655
Saturation (magnetic):	85, 1997, 4271, 5523	Silicon oxides:	2955, 3833
Scale (corrosion):	2099, 5887, 6635, 7303	Silicon substrates:	3089, 3155, 3309, 3461, 3525, 4005, 4375, 4669, 4799, 4917, 5771, 5817, 6121, 6603, 6861, 6871
Scanning acoustic microscopy:	6791	Silicone resins:	265, 1695, 2239, 4131
Scanning electron microscopy:	4521, 5711, 6221, 6611, 6675	Silicones:	3261
Scattering:	4103	Silk:	3221
Scrap:	637, 6449	Silsesquioxanes:	1331
Scratch hardness:	3293	Silver:	867, 867, 2253, 2487, 2783, 2955, 3517, 3773, 3833, 4179, 4459, 5067, 5339, 6299
Scratch resistance:	1919, 3293		
Scratch tests:	1593, 4185		
Scratching:	4465		
Screen printing:	4647		
Screw dislocations:	3031, 3677, 5135		
Sea water:	6073, 6951		
Sea water corrosion:	6619, 6857		
Sealing:	605, 605, 2973, 5915		
Seam welds:	6561		
Second harmonic generation:	4027		
Secondary ion mass spectrometry:	6809		
Sedimentation:	2303, 3629		
Seebeck effect:	1325, 4103, 5653, 6299		
Segregations:	2011, 2561, 2935, 4719, 5263, 6291, 6365, 6379, 7199, 7213, 7275		
Selenides:	323, 2183, 4643		
Selenium base alloys:	6433		
Self-propagating synthesis:	667, 1907, 2073, 3723, 4683, 4949, 5227, 5315, 5319, 5333, 5487, 5511, 5569, 5735, 6421		
Semiconductor devices:	4345		
Semiconductors:	323, 659, 699, 1101, 1325, 1515, 1575, 1659, 1765, 1899, 2183, 2187, 3069, 3203, 3265, 3461, 3525, 4325, 4349, 5235, 5837, 5857, 6105, 6607, 6861		

## Subject Index - 2004

Silver base alloys:	3329, 5587, 5727	Spacecraft components:	3845
Silver compounds:	2565	Spacing:	3425, 7213
Silver halides:	4987	Spallation:	3383
Silver plating:	3241	Spalling:	975
Silverphosphotellurate:	1717	Spark plasma sintering:	1471, 1907, 2621, 3137, 4515, 5037, 6257, 6863
Simulation:	2919, 3593, 3695	Spatial resolution:	4905, 6655, 6809
Single crystals:	107, 1467, 1891, 2557, 2931, 3863, 3957, 4027, 5081, 6603, 6993, 7199, 7207	Special steels:	7, 7145, 7183
Sinterability:	3079	Specific heat:	711, 1233, 1241, 2887, 5905, 6141, 7229
Sintered compacts:	1309, 3613, 3849, 4095, 4705, 6965	Specific surface:	565, 2267, 2341, 3549, 5051, 5189, 5299, 5339, 6133
Sintering:	861, 1337, 1773, 1959, 2113, 2539, 2965, 3445, 3739, 4113, 4171, 4397, 4569, 5239, 5267, 5719, 5865, 6129, 6227, 6361, 6655, 7023, 7041, 7379	Spectra:	2717
Sintering (powder metallurgy):	4367, 4835, 5325, 5877	Spectrophotometers:	2909
Sintering aids:	1907, 1943, 2205, 5825	Spectroscopic analysis:	1065
Size distribution:	2919	Spectroscopy:	6, 2223, 6743
Size effects:	1255, 5003, 5103	Spent nuclear fuels:	4383
Size reduction:	5247	Spheres:	2955
Skewed distributions:	3695	Spherical powder:	3647, 4171
Skull melting:	7245	Spherulites:	1743, 5567, 7373
Slag cements:	3449	Spinel:	357, 1077, 1671, 1875, 3141, 3635, 5045, 5151, 5403, 6191, 6687
Slags:	2191, 6675, 7269	Spinning (materials):	691, 3003, 4605
Slicing:	2761	Spinning (metals):	5881
Sliding:	2989, 3453, 5869	Spinodal decomposition:	5003, 5023
Sliding contact:	4263	Spot welding:	4659
Sliding friction:	6635	Spray casting:	7253
Slip:	687, 1477, 3845, 4543	Spray coating:	4701
Slip bands:	1153	Spray drying:	3779
Slip planes:	3593, 5189	Spray forming:	4633, 4679, 5639, 6831, 6835, 7259
Slurries:	2581, 3339, 4387	Spray pyrolysis:	2915, 3235, 3647, 5719, 6847, 7085
Smart materials:	2961	Sprayed coatings:	353
Snow:	547	Springs (elastic):	3391
Soda-lime glass:	6271	Sputtered films:	2609, 3195, 3541, 3941, 5695
Sodium chloride:	1609, 4247	Sputtering:	329, 1671, 1895, 2869, 3203, 6121, 6215
Sodium compounds:	481, 671, 3641, 4569, 6367, 7351	Squeeze casting:	2967
Softening:	1241, 2689, 5129	Stability:	307, 3085, 3425, 5557
Softening points:	5881	Stabilization:	2959, 3365
Soil (material):	3453, 5455	Stacking fault energy:	5417
Sol gel process:	565, 663, 699, 761, 903, 987, 1037, 1087, 1683, 2037, 2107, 2565, 2663, 2683, 2801, 2835, 2915, 3767	Stacking faults:	2523, 2689, 6349
Sol gel processes:	4711, 4909, 5853	Stainless steels:	1153, 1639, 3397, 4835, 5779, 5873, 7111, 7275, 7395
Sol-gel processes:	3129, 3235, 3529, 4057, 4367, 4569, 4663, 6105, 6523, 6743, 6847, 6871, 7097	Stamping:	6087
Solar cells:	4345, 6361	Standard deviation:	3695
Solar energy:	5097	Stannates:	5239
Solar generators:	699, 2195	Starches:	6083
Soldered joints:	1803	State of the art:	6
Soldering:	4379, 6125	Static loads:	2089
Solders:	1095, 4211, 4379	Statistical analysis:	2775, 3115, 3453, 7009
Solid electrolytes:	2965, 5125	Statistical distributions:	335
Solid lubricants:	1499, 4119	Statistical mechanics:	2597
Solid oxide fuel cells:	3509, 4405, 5765	Steady state:	3179, 5213
Solid phases:	3171, 6365, 7237	Steam:	4693
Solid solubility:	5067	Steel fibers:	4103
Solid solutions:	235, 3079, 4255, 5003, 5067, 5121, 5181, 5255, 5287, 5421, 5523, 6233, 6333, 6371	Steels:	741, 1503, 1727, 2577, 4009, 5533, 6079, 6457, 6791, 7213, 7341
Solid state:	1337, 1535, 2717, 3345, 4995, 5031, 5071, 5097, 5117, 5161, 5689, 6937	Stereolithography:	2457
Solid state devices:	7085	Stiffness:	1, 1, 501, 529, 745, 951, 1241, 1331, 1419, 1813, 2737, 3253, 3845, 4465, 4495, 4721, 4903, 4965, 5881, 6073, 6509, 7327, 7333
Solidification:	215, 1121, 2023, 2231, 2561, 2935, 4045, 4633, 4933, 6379, 7161, 7213, 7229, 7237, 7253	Stimulated emission:	3641
Solidus:	1343, 2935	Stirrers:	5223
Sols:	845, 4017	Stirring:	3357, 5247, 7193
Solubility:	3413, 4255, 4977, 5343, 5357, 5979, 7275, 7295, 7369	Stoichiometry:	5143, 5333
Solution:	2717	Storage modulus:	2081
Solution blending:	293	Strain:	1425, 3115, 6087, 6561, 6975
Solution heat treatment:	3433, 6483, 6951, 7401	Strain aging:	6495
Solution strengthening:	6619	Strain distribution:	4495, 4953
Solvent extraction:	3397	Strain gages:	3179
Solvents:	4605, 4909, 6089, 7373	Strain hardening:	295, 2689, 4157, 6467
Sorption:	2209, 3319, 5393, 7101	Strain rate:	225, 529, 655, 1153, 1721, 2519, 2927, 2979, 3047, 3179, 3191, 3479, 3577, 3593, 4157, 4675, 4869, 5511, 6357, 7077
Sound velocity:	2887	Strain rate sensitivity:	2979, 3677, 5557, 7077
Space charge:	4651	Stratification:	5407
Space technology:	2879	Stress analysis:	2043, 2121, 4729
Spacecraft:	5, 271	Stress concentration:	655, 2593, 2629, 2841, 3403, 4339, 4391, 4481, 4729, 6817

Stress corrosion:	1041	Tantalates:	3079, 3739
Stress corrosion cracking:	655, 1033, 4675, 6813	Tantalum:	1153, 1519, 5067, 5461,
Stress intensity:	225, 1061, 1267, 2219		5969
Stress intensity factors:	2979, 3619, 4305	Tantalum carbide:	5995
Stress ratio:	6885	Tantalum compounds:	377, 1907
Stress relaxation:	225, 2877, 3403, 6539, 7089	Tape casting:	1337, 3339, 4387
Stress relieving:	3889	Tapes:	4387
Stress strain curves:	3175, 3733	Tear strength:	4671
Stress strain relationships:	3175, 3577, 3593	Tear tests:	6909
Stress transfer:	2737, 3047, 4481, 5861	Tearing:	1283
Stress-strain relationships:	6357, 6473, 6509	Technologies:	2937
Stresses:	271, 2811, 3425, 3865, 4255	Tellurides:	1515, 2183
Stretchability:	6473	Tellurium:	6299
Stretching:	653, 2481, 2959, 3269, 6839	Tellurium compounds:	4971, 7351
Strip steel:	4231, 5311, 5803	Temperature:	113, 2821, 2937
Strontium:	107, 6847	Temperature dependence:	2755
Strontium compounds:	707, 715, 1433, 1765, 1785,	Temperature effects:	3849
	1831, 1891, 2621, 2937,	Temperature gradient:	2557
	3079, 3739, 3853, 6871	Tempered martensite, Mechanical properties:	295
Strontium oxides:	5833	Tempering:	99, 3935
Strontium titanates:	4905, 4931, 5299, 5543	Templates:	4069
Structural integrity:	851	Templating:	2411
Structural materials:	2239, 2973	Tensile creep:	3465
Structural materials, Phases (state of matter):	299	Tensile properties:	939, 1511, 1791, 1809, 1919,
Structural members:	2577		2023, 2861, 3479, 4679,
Structural stability:	3957, 5103, 6937		4933, 5607, 6449, 6623
Styrene butadiene resins:	951, 1283, 3281, 6885	Tensile strength:	127, 289, 331, 369, 433, 587,
Sublimation:	1101, 1515		747, 1081, 1297, 1579, 1689,
Submarines:	6073		2159, 2465, 2535, 2629,
Submerging:	1101		2737, 2927, 3241, 3403,
Substitutional impurities:	4271		3593, 4049, 4481, 4615,
Substitutional solid solutions:	5011		4835, 5231, 5881, 5995,
Substrates:	2755, 2909, 2937, 2955		6069, 6243, 6253, 6457,
Substructures:	4701		6483, 6529, 6561, 6885,
Subsurface investigations:	4263		7031, 7327
Sulfates:	5161	Tensile stress:	173, 207, 1389, 1727, 1727,
Sulfides:	1325, 2183, 5097, 5125		2387, 3577, 3733, 4107,
Sulfur:	1135, 5487		4321, 4339, 4481, 4869,
Superalloys:	7, 605, 655, 719, 1033, 1871,		6539
	1967, 1975, 2043, 2593,	Tensile tests:	3047, 3465, 3479, 3677,
	2689, 2927, 3345, 3383,		4305, 4841, 6243, 6885,
	3957, 4199, 6813, 6993,		7031, 7365
	7009, 7135, 7169, 7175,	Tension tests:	67, 173, 331, 1071, 1653,
	7199, 7207, 7229, 7237,		1727, 2387, 3191
	7253, 7259, 7401	Terbium:	5755
Superalloys, Microstructure:	369	Terbium base alloys:	2233
Superconducting devices:	4917	Terephthalate:	5551
Superconducting tapes:	3517	Ternary alloys:	6583
Superconductivity:	4893	Ternary systems:	2253, 3913, 4037, 5125,
Superconductors:	4893		5591, 6299
Supercooling:	2561, 4633	Terpolymers:	6843
Superheating:	5567	Tetragonal lattice:	1397, 1935, 2151
Superplasticity:	2597, 2861, 4679, 6357,	Tetragonal zirconia polycrystals:	3, 2585, 3175, 4039, 4371,
	7077		6389
Supersaturation:	4107, 4977, 5411, 6591	Tetrahedrons:	2965
Surface area:	1037, 1363, 1383, 2267,	Texture:	445, 933, 1213, 1363, 1477,
	2341, 3149, 3549, 3705,		2243, 3329, 3549, 3577,
	5239		3705, 4231, 5311, 5365,
Surface chemistry:	1695, 3183, 3549, 4349,		5417, 5477, 6591, 7101
	4669, 7317	Textures:	3871, 4157
Surface cracks:	6981	Theoretical density:	1589, 1773, 3137, 3339,
Surface energy:	1, 1, 265, 5103		5431
Surface hardening:	5583	Thermal analysis:	571, 1173, 3641, 3941
Surface hardness:	619, 3183, 4615	Thermal barrier coatings:	3383
Surface layer:	2499	Thermal barriers:	1639, 1823, 1975, 2043
Surface pretreatments:	1, 1, 2707	Thermal conductivity:	303, 711, 1233, 1309, 1823,
Surface properties:	2033		1975, 3659, 3817, 4179,
Surface reactions:	4313		4387, 5235, 5925, 5939,
Surface roughness:	2755, 4375, 5727, 6101		6981, 7229, 7237
Surface structure:	1147, 1683, 2609, 2911,	Thermal cycling:	385, 3041, 3845, 4799, 6509
	3497, 4487	Thermal decomposition:	3207, 4655, 4711, 5189,
Surface temperature:	5925		5881, 6191, 6325
Surface tension:	2, 265, 401, 1037, 1051,	Thermal degradation:	653, 4615
	1511, 4605, 6365	Thermal diffusivity:	1233, 7229
Surface treatment:	3121, 6599	Thermal efficiency:	1823
Surfaces:	3, 2755, 2811, 2865, 2937	Thermal evolution:	4877
Surfactants:	663, 1575, 3471, 3587, 3767	Thermal expansion:	51, 695, 1309, 1389, 1987,
Surges:	3537, 4373		2499, 2923, 3483, 3563,
Surgical implants:	1113, 1411, 1895, 2205,		4113, 5235, 5561, 5939,
	2357, 3183, 3493, 3605,		7023
	4031, 4309, 4961, 5711,	Thermal management:	4387, 5905
	6809	Thermal mismatch:	2043
Surgical implants, Coating:	329	Thermal properties:	2, 1051, 2239, 4809, 7333
Swelling:	4647, 6735	Thermal protection:	5887
Switches:	5617	Thermal resistance:	645, 1813, 2387, 3159, 4855,
Switching (polarity):	489		6097
Synthesis:	711, 1077, 1773, 1857, 2341,	Thermal shock:	6005
	2717, 2821, 3257, 4069,	Thermal spraying:	1389, 2707
	4131, 4343, 4359, 4957,	Thermal stability:	343, 511, 571, 641, 1463,
	4977, 5143, 6843		1471, 1879, 2081, 2099,
Systematic errors:	3695		2335, 2387, 2531, 2699,
Talc:	3293, 5357		2901, 3521, 3641, 3817,

## Subject Index - 2004

	3941, 3965, 4193, 4331, 4671, 4705, 4799, 4901, 5147, 5189, 5295, 5471, 5613, 5659, 5669, 5743, 5861, 6243, 6433, 6631, 6929, 7031		
Thermal stresses:	2923, 5817, 5939		
Thermistors:	645, 1785, 4363, 4937		
Thermites:	6421, 6599		
Thermochemistry:	2891		
Thermodynamics:	141, 3375, 3425, 3689, 3745, 3949, 4893, 5103, 5161, 5393, 5503, 5887, 7221		
Thermoelectric materials:	4569		
Thermoelectricity:	319, 2645, 3163, 4103, 5653, 6299		
Thermoluminescence:	1601, 2277, 6203		
Thermomechanical treatment:	385, 5557		
Thermomechanics:	6843		
Thermoplastic forming:	6133		
Thermoplastic resins:	5551, 6631, 6839, 7049		
Thermosetting resins:	7049		
Thick films:	903, 1321, 3767, 4387, 6723,		
Thickeners:	4487		
Thickening:	4487		
Thin film transistors:	4345		
Thin films:	3, 745, 749, 819, 925, 961, 1101, 1147, 1429, 1485, 1515, 1519, 1639, 1659, 1671, 1805, 1895, 2243, 2249, 2443, 2609, 2755, 2801, 2835, 2865, 2869, 2877, 2909, 2915, 2937, 3089, 3163, 3171, 3203, 3235, 3253, 3461, 3523, 3525, 3541, 3683, 3797, 3853, 4005, 4013, 4053, 4185, 4313, 4375, 4465, 4905, 4953, 5057, 5533, 5613, 5695, 5701, 5849, 6291, 6361, 6523, 6577, 6603, 6607, 6639, 6871, 7085, 7115		
Thiophenes:	6089		
Thixoforming:	99		
Through cracks:	7161		
Tiles:	5755		
Time dependence:	4937		
Time response:	3391		
Tin:	2327, 5071		
Tin base alloys:	1095, 1449, 1803, 4211, 4379, 6571		
Tin compounds:	4643, 5213		
Tin oxides:	3537, 4037, 5361, 5825, 6361		
Titanates:	133, 469, 867, 1233, 1785, 1891, 2589, 2879, 3129, 3523, 3745, 4005, 4561, 4977, 5195		
Titanium:	1131, 1895, 2073, 2357, 4031, 4345, 4961, 5019, 5067, 5259, 5461, 5747, 6347, 6523, 6921, 7145, 7269		
Titanium, Coating:	329		
Titanium aluminides:	3935, 5471, 6583, 6929		
Titanium base alloys:	7, 501, 587, 1125, 1721, 2387, 2597, 2613, 3391, 3493, 3605, 4185, 5471, 5583, 6101, 6357, 6583, 6645, 6809, 7077, 7089, 7153, 7183, 7193		
Titanium carbide:	173, 581, 667, 881, 1041, 1589, 2073, 3375, 4289, 4515, 4553, 4799, 4809, 5227, 5471, 5533, 5569, 5735, 6385, 6503		
Titanium carbide, Coatings:	329		
Titanium carbides:	6635		
Titanium compounds:	1125, 1471, 1721, 1907, 2099, 2523, 2613, 3203, 4391, 5271, 5379		
Titanium diboride:	711, 3375, 3723, 4683, 5325, 6043, 6389		
Titanium dioxide:	51, 353, 565, 699, 761, 851, 895, 1139, 1305, 1837, 1841, 1899, 2663, 2801, 2835, 2891, 2909, 2915, 3261, 3265, 3549, 3683, 3767, 3813, 4131, 4239, 4349, 4663, 5279, 5389, 5581, 5695, 6361, 6743		
Titanium nitride:	881, 3375, 4185		
Titanium nitrides:	3569		
Titanium oxides:	3171, 6607		
Tobacco:	285,		
Tool steels:	4887, 6835, 7275		
Tool steels, Welding:	241		
Topography:	2945, 7009		
Topology:	1363, 3705		
Torsion:	557		
Toughness:	5, 295, 1121, 1283, 1419, 1813, 1849, 2961, 3241, 4081, 4481, 4901, 4903, 5537, 5547, 5599, 5995, 6509, 6885		
Toxicity:	3533, 5111, 5547		
Toxicology:	4909, 5497		
Transducers:	1903, 4363		
Transformation temperature:	343, 1849, 3391		
Transformation toughening:	6705		
Transgranular fracture:	67		
Transition:	3, 2865		
Transition joints:	4219		
Transition pressure:	5103		
Transition temperature:	3129, 5939, 7125		
Transmission electron microscopy:	3821, 4521, 4587, 4705, 4941, 6655, 6675, 6687, 6723, 6957		
Transmission loss:	3839		
Transmissions (automotive):	6495		
Transmittance:	3141, 6257		
Transmutation:	6353		
Transparency:	3717,		
Transport properties:	2637, 3319, 3833, 4569, 6611, 6723, 7145		
Trapping:	6203		
Treatment:	2821		
Trees:	4715		
Tribology:	933, 1593, 2989, 3183, 3817, 4119, 6389, 6487, 7111		
Tricalcium aluminate:	997		
Trichloroethylene:	4349		
Trivalent ions:	4655		
Tubes:	2663, 2689, 6555		
Tungsten:	5067, 5461, 5771, 6005, 6233		
Tungsten base alloys:	1153, 2539		
Tungsten carbide:	4397, 4829, 5217, 6271		
Tungsten compounds:	4119		
Tungsten oxides:	4373, 5243		
Tunnel junctions:	3941		
Turbine blades:	1975, 2927		
Turbine disks:	3469		
Turbine engines:	5, 7089		
Turbines:	2043		
Turbulence:	7245		
Turbulence models:	7183		
Twinning:	1153, 1743, 2689		
Ultimate tensile strength:	4309, 6555		
Ultra Large Scale Integration:	4669		
Ultrafines:	987, 2267, 3759, 4039, 4683, 4687, 5057, 5081, 5181, 6847		
Ultrahigh vacuum:	6291		
Ultrasonic processing:	5209		
Ultrasonic radiation:	3265		
Ultrasonic testing:	4631		
Ultrasonic treatment:	5347		
Ultraviolet radiation:	4459		
Underground corrosion:	2767		
Unit cell:	2017, 2121, 4113, 4627, 6191, 6333		
Uranium:	3871, 3901		
Urea formaldehyde resins:	1703		
Urethane thermoplastic elastomers:	5673		
Vacuum arc melting:	7135, 7153, 7161, 7169, 7175, 7183, 7193, 7207		
Vacuum induction melting:	6735		
Valence:	489, 2237, 3635, 6335		
Valentinite:	1075		
Van der Waals forces:	4095, 6141		
Vanadates:	5375		
Vanadium compounds:	2565, 2869		
Vanadium dioxide:	489		
Vanadium oxide:	2625		
Vanadium oxides:	4037		
Vapor deposited coatings:	3569		
Vapor deposited films:	4799		
Vapor deposition:	1879, 1975, 5617, 6291		
Vapor phases:	2727, 3833, 6017		
Vapor pressure:	4893		
Vaporizing:	3813		
Varistors:	307, 3537, 4373, 5543, 5825,		

Vectors (mathematics):	7379	Wetting:	649, 2081, 5003, 5581
Vegetable fibers:	2, 331, 1051, 1635, 2961, 3403	Whisker composites:	1131, 1875, 2451, 2997, 4179
Vegetable oils:	1887, 4331	Whiskers:	1445, 2531, 4561, 5563, 6263
Vehicles:	5503	White iron, Mechanical properties:	73
Veneers:	3493	Widmanstatten structure:	587
Vermiculite:	5347, 5869	Wire:	1927, 3889
Vibration:	385, 1091	Wire, Bonding:	165
Vibration mode:	3799	Wire drawing:	1849
Vibration monitoring:	3105, 6079	Wollastonite:	2601
Vibromilling:	5175	Wood:	201, 3245, 4715
Vickers hardness:	3137, 4515	Wool:	7317
Vickers indentation:	4809, 5765	Work softening:	3865
Vinyl ester resins:	1791, 6073	Workability:	5599
Viscoelasticity:	649, 1377, 1883, 2877, 3339, 3403, 5319	Wrought alloys:	7061
Viscosity:	265, 547, 951, 1491, 2581, 2683, 2883, 3471, 3521, 4247, 4487, 4605, 4913, 5295, 6051, 6945, 7221	Wustite:	5151
Viscous flow:	6539	X ray diffraction:	2717, 2909, 4363, 6221
Vitrification:	2131	X-ray diffraction:	6957
Voids:	365, 3425, 3569, 6349, 6821	Yachts:	6073
Volatilization:	6017	YBCO superconductors:	4057
Volume:	6643	Yield point:	1255
Volume fraction:	1071, 1121, 2303, 2569, 3211, 3433, 3563, 4335, 4533, 6655, 6929	Yield strength:	1267, 1481, 1579, 1635, 2121, 2295, 3089, 3253, 4009, 4157, 6357, 6483, 6495, 6555, 7077
Wafers:	3031, 3155, 6603, 7369	Yield stress:	4533, 4869, 6271
Wafers, Cleaning:	361	Yttria stabilized zirconia:	235, 377, 825, 833, 1639, 1823, 2683, 3057, 3339, 3383, 3647, 4171, 4371, 4405, 4701, 6389, 6863
Wall thickness:	4903	Yttrium:	4931, 6375
Washing:	5051, 5143	Yttrium base alloys:	1169
Waste containers:	2257	Yttrium compounds:	747, 2145, 2499, 2509, 7383
Waste disposal:	3533	Yttrium iron garnet:	2187
Wastes:	4021, 5591	Yttrium oxide:	377, 1891, 5833, 6965
Water absorption:	4331	Yttrium-aluminum garnet:	4711
Water pipelines:	6857	Zeolites:	671, 1677, 5603
Water pollution:	2209	Zeta potential:	401, 813
Water quenching:	99, 2473	Zinc:	5487, 5803
Water vapor:	3413, 6627	Zinc compounds:	323, 1077, 1325, 3537, 5057, 5151, 5195, 5239, 5611
Wave propagation:	2211	Zinc oxide:	307, 911, 2195, 3195, 3235, 4917, 5825, 6105, 7379
Waveguides:	4, 1415, 3187	Zinc oxides:	3525, 5389, 6111
Wavelengths:	4027	Zinc sulfide:	659, 1575
Wavenumber:	3695, 6257	Zinc sulfides:	5103
Wear:	641, 1499, 2131, 4553, 5223	Zinc telluride:	1101
Wear mechanisms:	5625, 6705	Zircon:	5755
Wear particles:	3817	Zirconates:	2675
Wear rate:	5613, 6487	Zirconia toughened alumina:	619
Wear resistance:	329, 1121, 1481, 2113, 2941, 3817, 4887, 5533, 5583, 6097, 6503, 7101	Zirconium:	5461, 7145
Wear tests:	4887	Zirconium alloys:	3985
Weathering:	2629, 6079	Zirconium base alloys:	5251, 5483, 5743, 7183
Weathering steels:	4393	Zirconium carbides:	6005, 6057
Weibull modulus:	1441, 3319	Zirconium compounds:	1383, 4039, 5185, 5779, 5887, 5951, 5959, 5969, 5987, 6043, 6051
Weight loss measurement:	4179, 6449	Zirconium compounds, Composite materials:	127
Weight reduction:	501, 3211, 6495	Zirconium dioxide:	6, 803, 839, 881, 1017, 1337, 1845, 1935, 1975, 2043, 2113, 2151, 2901, 3141, 4923, 5181, 5833, 5865, 6705
Weld defects:	6117	Zone melting:	5987
Weld metal:	2257, 7119		
Welded joints:	1689, 2257, 6457, 6561, 6813, 7119		
Welding:	2473, 4139, 5011		
Welding electrodes:	7119		
Welding parameters:	241, 6117, 6457		
Wettability:	3211, 4379, 5421, 5727		