



Division 08 - Openings

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08 11 13 Hollow Metal Doors and Frames

Hollow metal doors and frames shall comply with International Association of Architectural Manufacturers (IAA) and Manufacturers of Hollow Metal Doors and Frames (MHD&F) specifications for Commercial Hollow Metal Doors and Frames, and must also comply with NFPA 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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08 12 16 Aluminum Frames

08 11 16 Flush Wood Doors

Flush wood doors shall comply with F101 and door manufacturer's association standards. Flush wood doors shall be 1 1/2" thick.

Unless specified otherwise, interior doors shall be solid core wood doors with wood veneer faces or factory finished. Obtain flush wood doors from single manufacturer and single supplier.

\* If doors are to be installed with hollow metal frames

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Plastic laminate finished shall conform to \_\_\_\_\_, \_\_\_\_\_ +P \_\_\_\_\_.

Interior wood doors shall carry a lifetime warranty by the door manufacturer. The warranty shall include veneer delamination and warping.

Submit manufacturer's standard warranty form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship for the life of installation. Failures include, but are not limited to: warping, cracking, or distortion more than 1/8 inch in a 61 by 1=1 inch section; telegraphing of core construction in face veneers exceeding >1 inch in a 71 inch span. The warranty shall also include installation and finishing of replacement doors.

08 31 13 Access Doors and Frames

Provide access doors where indicated and at the following locations:

- 1' - on walls to provide access to valves, reset buttons, controls, manometers, plumbing fittings at toilets, mechanical filter banks, mechanical access hatches, areas requiring access for unit replacement and other areas requiring access for optimal operation and maintenance of equipment or fittings.
- 6' - on ceilings to provide access to valves, duct dampers, fire and smoke dampers, meters, registers, and other filter units, remote duct dampers, remote fire dampers, remote electrical junction boxes, access hatches and other areas requiring access for optimal operation and maintenance of equipment or fittings.

Specify fire-rated access doors where required in fire-rated assemblies.

Install doors flush with adjacent finish surfaces or recessed to receive finish material.

Specify for each door face material, a product submittal of at least 7 by 6 inches in size, in specified finish.

Obtain each type of access door and frame from single source from single manufacturer.

08 33 13 Polishing Counter Doors

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08 33 23 Other Wood Finishing Doors

08 36 13 Residential Doors

08 31 13 Aluminum Framed Entrances and Storefronts

Entrances shall comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's 2010 ADA Accessibility Guidelines, Title III, and Section 119.1 of the Texas FPBC standard for side stile doors.

Pairs of double doors shall have a removable mullion with electric strike unless approval is given by Texas Tech to deviate from this requirement.

Glass in entrances and storefronts shall be fully tempered safety glass, tinted if required, and coated with low-emissivity coatings.

Entrances shall be designed to withstand wind loads per ASCE 7-10 and ASCE 7-16. Global's recommendations specify that the installer shall be a manufacturer's authorized representative who is trained and approved for installation of units required for this project. References shall be provided upon request.

Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings. Submit manufacturer's standard warranty form in which manufacturer agrees to repair or

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Replace components of aluminum framed systems that do not comply with requirements or that fail in materials or workmanship for 6 years from substantial completion or the manufacturer's standard warranty whichever is greatest.

Obtain aluminum framed entrances and storefronts from single manufacturer and single supplier.

08 11 13 Glazed Aluminum Curtain Wall

08 11 13 Aluminum Windows

Provide fixed non-removable aluminum window assemblies throughout the project. The TTU campus standard is , FC3 Series 88 or approved equal with Tech-Vory or clear anodized aluminum finish. Removable windows will only be specified per the 3) per request.





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TTU University and TTU Police'

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Other finishes may be considered but they will be subject to approval by the owner.

The function of mortise locks will be standardized as follows:

	Sargent	Corbin
Service Storeroom	666	666
Office	GG	G1
Passage	1G	1>
Corridor	6G	8G
Classroom	7B	GG
Entrance	C7	8B
Bathroom	8G	6>

The function of Sargent line cylindrical locks will be as follows:

Service Storeroom	1>@>C
Office	1>@>G
Passage	1>@1G
Corridor	1>@6G
Classroom	1>@7B
Bathroom	1>@8G

Other functions desired, but not listed, shall be selected from the same series designated in sections 8% and B%, and shall have the approval of the Managing Director of Physical Plant. General guidelines for function selection:

- 1) Operation of the inside lever shall always automatically retract all locking mechanisms to allow exit from the space. The only exceptions are dead bolt locks operated by thumb turns and/or keyed cylinders on doors between rooms and not classified as exit doors.
- 6) Limited access areas such as equipment storage areas, stock rooms, mechanical equipment rooms, etc., should be equipped with locks with a rigid lever function to ensure that the door is always locked when closed and is operable from the outside with key only and inside by the lever. These doors may or may not be equipped with door closers, depending on room function. All mechanical equipment rooms and custodial rooms shall be equipped with rigid outside lever function. The outside lever shall also be unlatched. These rooms shall also be equipped with a door closer.
- 7) Areas requiring higher security should be equipped with locks having dead bolt

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!unctions and ) ithout toggle or #ush button o#tions' The loc/s should be loc/ed or

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acceptable items'

Doors of buildings, areas within buildings, or individual spaces shall be designated by the building user in coordination with the University. All lock/s in new construction, renovations, or rekeying projects shall be keyed to the Sargent restricted key as designated by the Security Systems Manager. No exceptions will be considered for the Sargent restricted key. All contractor supplied lock/sets, exit devices and other keyed hardware shall be supplied with Sargent restricted key cylinders. The TTU shall assign those restricted keys. The only exception to this would be in small renovation or remodel projects, with the approval of the Texas Tech University. All permanent lock cylinders and associated components will be removed from the hardware and delivered to the TTU for rekeying and installation by the University. Contractors shall use test cylinders on all keyed hardware to insure proper fit of the permanent cylinders in the hardware. Contractors shall provide temporary cylinders for security during construction.

Submit manufacturer's standard warranty form in which the manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to structural failures including excessive deflection, cracking, or breakage, faulty operation of doors and door hardware, and deterioration of metals, metal finishes, and other materials beyond normal weathering and use. The warranty period shall be three years from date of Substantial Completion, unless otherwise indicated below.

1' Exit devices 6 years from date of Substantial Completion'

6' Annual closers 1 year from date of Substantial Completion'

Beginning at Substantial Completion, provide twelve months full maintenance by skilled employees of door hardware - installer - include (quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door and door hardware operation. Provide parts and supplies that are the same as those used in the manufacture and installation.)

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08 00 00 Glazing

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Exterior insulated glazed units (EIGUs) are required to meet current adopted Energy Code performance requirements as regulated by the State Energy Conservation Code (SECC) ([http://www.secc.state.tx.us/08bec0state/undec08.htm](#))

Classifications for exterior insulated glazed units (EIGUs) shall be determined. Exterior insulated glazed units are not required to be gas-filled but are to have a monolithic coating applied to the surface of the exterior pane of glass. Monolithic coating is to be provided with the polymeric application process.

Consideration for sputter coated monolithic glass may be given by the FP5C Project Team if proposed glass meets aesthetic design intent characteristics relative to color, transmittance and reflectance. Exterior pane visible light reflectance shall not exceed \_\_\_\_\_M. Exterior insulated glass units are to exhibit a slight gray tint, maximum glare, 1J187 Crystal Gray 3) neutral monochrome glass color, tint and reflectance from glazing samples and project mockups. Submit a manufacturer's standard warranty form in which manufacturer agrees that the original glass in the windows and doors will be free from failure of the air seal or any other defects which obstructs vision through the glass or affects the insulating qualities for a period of 10 years. The guarantee shall not cover glass breakage from physical abuse, earthquake, storm, or similar causes.

Consideration should also be given to the use of tinted glass, sunshade materials, and any other devices that will prevent excessive solar gain.

Fire glass which is specified to have Underwriters' Laboratory's approval shall have the label left on the glass. Texas Tech will remove the labels after acceptance of the building direction of fire egress, horizontal/vertical or diagonal shall be specified by the architect.

08 83 00 Mirrors

Submit description of materials and process used to produce each type of silvered float glass mirror specified that indicates sources of glass, glass coating components, edge sealer, and quality control provisions.

Submit to use a qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

Obtain mirrors from single source from single manufacturer.

Do not install mirrors until ambient temperature and humidity conditions are maintained at levels

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indicated for final occupancy

Submit a manufacturer's standard warranty form in which mirror manufacturer agrees to replace mirrors that deteriorate within specified warranty period. Deterioration of mirrors is defined as defects developed from normal use that are not attributed to mirror breakage or to maintaining and cleaning mirrors contrary to manufacturer's written instructions. Defects include discoloration, black spots, and clouding of the silver film. Warranty period shall be 6 years from date of Substantial Completion.

Specify to install mirrors in compliance with mirror manufacturer's written instructions and with referenced publications. Mount mirrors accurately in place in a manner that avoids distorting reflected images and complies with ADA, and T&S.

08 88 13 Fire Resistant Glazing

08 11 11, Fixed Louvers