

NATIONAL EVALUATION REPORT

3M FIRE BARRIER THROUGH-PENETRATION PROTECTION SYSTEMS

3M COMPANY, INC.
3M FIRE PROTECTION PRODUCTS
BUILDING 225-4N-07
ST. PAUL, MINNESOTA 55144-1600
www.3m.com/firestop

1.0 SUBJECT

3M Fire Protection Products:

3M Brand Fire Barrier Premium Latex CP 25 WB+ Caulk, 3M Brand Fire Barrier FS-195+ Wrap/Strip, 3M Brand Fire Barrier RC-1 Restricting Collar, 3M Brand Fire Barrier CS-195+ Composite Sheet, 3M Brand Fire Barrier MP Moldable Putty, 3M Brand Fire Barrier PSS 7904 Series Penetration Sealing Systems

2.0 PROPERTIES FOR WHICH EVALUATION IS SOUGHT

2.1 F & T ratings of through-penetration firestop systems.

2.2 Annular space protection for noncombustible penetrations.

3.0 DESCRIPTION AND USE

3.1 GENERAL

3M Fire Protection Products are used to maintain the integrity of fire resistive construction that has been penetrated by building services such as plumbing, electrical, communications and heating, ventilation and air conditioning (HVAC).

3M Fire Protection Products are intumescent or endothermic based technologies used to achieve necessary fire resistive ratings. Intumescent is the ability to expand and form a high-strength fire resistive char, when exposed to temperatures in excess of 250°F (121°C). Endothermic is the ability to block fire spread by chemically absorbing heat energy of a fire.

3.2 3M FIRE PROTECTION PRODUCTS

3M Brand Fire Barrier Premium Latex CP 25 WB+ Caulk: A one-part intumescent synthetic elastomeric water-based latex caulking compound designed for use as a through-penetration firestop system. See Figure 1 and Table 1 of this report.

This report is limited to the specific product and data and test report submitted by the applicant in its application requesting this report. No independent tests were performed by the National Evaluation Service, Inc. (NES), and NES specifically does not make any warranty, either expressed or implied, as to any finding or other matter in this report or as to any product covered by this report. This disclaimer includes, but is not limited to, merchantability. This report is also subject to the limitation listed herein.

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4.2 THROUGH-PENETRATION FIRESTOP SYSTEMS

The through-penetration firestop systems shall be installed as shown in Figures 1 through 4 and Table 1 of this report.

4.3 ANNULAR SPACE PROTECTION OF NONCOMBUSTIBLE PENETRATIONS

3M Fire Protection Products listed in this report are permitted for use as noncombustible through-penetration annular space protection. The products are capable of preventing the passage of flames and not gases at normal or high temperature conditions when subjected to the time-temperature curve of ASTM E814 and ASTM E119.

5.0 IDENTIFICATION

Each package of 3M Fire Protection Products listed in this report shall bear a label with the manufacturer's name and/or trademark and address, product name, storage information and this report number for field identification.

6.0 EVIDENCE SUBMITTED

6.1 Manufacturer's descriptive literature.

6.2 Report of tests in accordance with ASTM E814 for Type CP 25 Fill, Void and Cavity Material in System No. 33 and Type PSS 7904 Wall Opening Protective Multiple-Cable Device, by Underwriters Laboratories Inc., File R9289-1, 2, and R9290, Project 81NK4314 and 81NK7951, dated December 18, 1981.

6.3 Report of tests in accordance with ASTM E814 for Type 303 Putty, Type CP 25 Caulk, Type FS 195 Wrap, Type SP-515 compressible sheet and Type CS 195 Intumescent sheet by Underwriters Laboratories Inc., File R9289-3, Project 81NK13140, dated June 18, 1984.

6.4 Report of tests in accordance with ASTM E814 for cable tray protection using a Type PSS7904-R device with Type CP 25 Caulk, by Underwriters Laboratories Inc., File R9289, Project 81NK5980, dated July 29, 1983.

6.5 Letter reports from Underwriters Laboratories Inc., signed by C. J. Johnson, Richard N. Walke and K. D. Rhodes, regarding testing performed in accordance with ASTM E814.

6.5.1 dated October 11, 1989, for MP Moldable Putty as an alternate to CP 25 NIS and SL for UL Systems No. 64 and 148.

6.5.2 dated July 15, 1988, documenting 0.01 inch water column positive furnace pressure for all through-penetration fire tests.

6.5.3 dated July 12, 1989, documenting test parameters for nonmetallic pipes in through-penetration firestop systems.

6.5.4 dated August 5, 1988, documenting name change of CP 25 Caulk to CP 25 SL Caulk, and similarity of CP 25 NIS with CP 25 SL.

6.5.5 dated September 22, 1989, Project 81NK31862, documenting CP 25 NIS Caulk for use in UL Systems No. 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 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.

6.5.7 dated April 24, 1990, Project 81NK7615, documenting CP 25 NIS for use in UL System No. 147.

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7.3.2 In jurisdictions enforcing the BOCA National Building Code/1999, the T rating is not required for penetrations of floors by a pipe, tube, and conduit that is not in direct contact with combustible material.

7.4 Protection of penetrations in fire resistance rated assemblies shall not be concealed from view until inspected and approved by the code official.

Table 1 3M Fire Barrier Products Applications Guide

Penetrating Item	3M Brand Fire Barrier Product Options	Range of Application						Concrete Wall and Floor Assemblies		Gypsum Wall Assemblies	
		Penetrating Items	Annular Space	Maximum Opening Size	F Ratings (hrs)	T Ratings (hrs)	F Ratings (hrs)	F Ratings (hrs)	T Ratings (hrs)	F Ratings (hrs)	T Ratings (hrs)
1. Plastic Pipe/Conduit & Cable Coupling	CP 25WB+ Caulk	PVC: 4 in. Nominal Diameter 4 Wreath Application ABS: 4 in. Nominal Diameter 3 Wreath Application	0.2 in. 0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	PVC: 4 in. Nominal Diameter ABS: 4 in. Nominal Diameter	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk	PVC: 4 in. Nominal Diameter ABS: 4 in. Nominal Diameter	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	MP Moldable Putty	PVC: 4 in. Nominal Diameter ABS: 4 in. Nominal Diameter	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
2. Metal Pipe and Conduit	CP 25WB+ Caulk	1 in. Depth of Caulk 2 in. Depth of Caulk	0.2 in. 0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
3. Fiberglass Insulated Metal Pipe	CP 25WB+ Caulk	1 in. Depth of Caulk 2 in. Depth of Caulk	0.2 in. 0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk 2 in. Depth of Caulk	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		

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Table 1 3M Fire Barrier Products Applications Guide

Penetrating Item	3M Brand Fire Barrier Product Options	Range of Application						Concrete Wall and Floor Assemblies		Gypsum Wall Assemblies	
		Penetrating Items	Annular Space	Maximum Opening Size	F Ratings (hrs)	T Ratings (hrs)	F Ratings (hrs)	F Ratings (hrs)	T Ratings (hrs)	F Ratings (hrs)	T Ratings (hrs)
4. Insulated Electrical and Communications Cable	CP 25WB+ Caulk	1 in. Depth of Caulk, 43% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
5. Cable Tray	CP 25WB+ Caulk	1 in. Depth of Caulk, 43% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
6. Glass Pipe	CP 25WB+ Caulk	1 in. Depth of Caulk, 43% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
7. Blank Openings and Construction Joints and Expansion Trenches	CP 25WB+ Caulk	1 in. Depth of Caulk, 43% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	FS-195+ Wrap Strip with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	CS-195 Composite Sheet with FS-195+ Wrap Strip and CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		
	PSS 7904-R Penetration Sealing System with CP 25WB+ Caulk or MP Moldable Putty	1 in. Depth of Caulk, 37% of Area Filled, 300 MCM Cable and 100 Pair Telephone Cable	0.75 in.	6 in. Diameter	2	2	2	2	1-1/2		

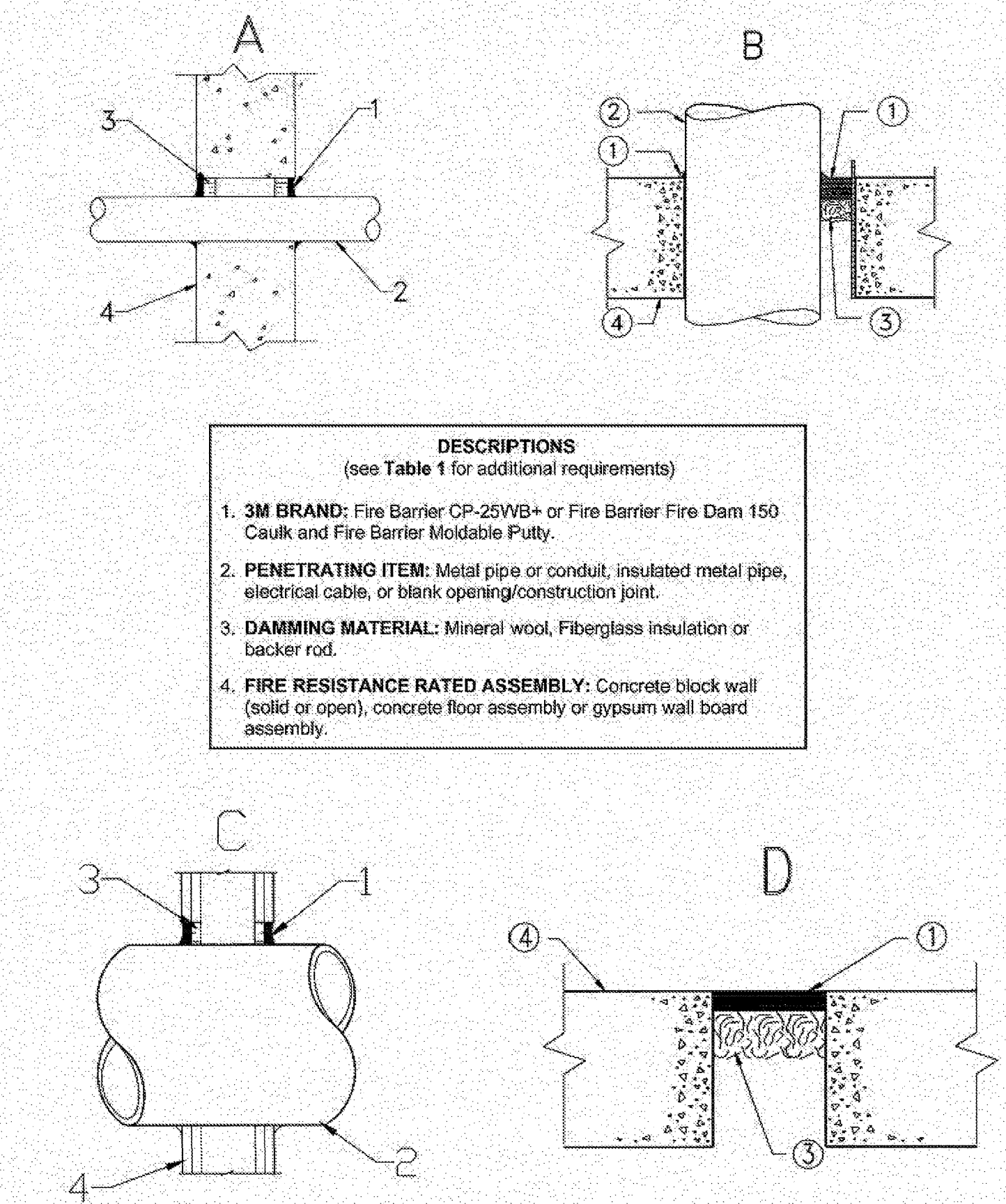
* Distance measured from the outer edge of the penetrant to the furthest edge of the opening.

Table 2 - INSTALLATION GUIDES

3M Brand Fire Barrier Product	Installation Guide (Publication Code)
3M Brand Fire Barrier Premium Latex CP 25WB+ Caulk	98-0400-2214-1
3M Brand Fire Barrier FS-195+ Wrap/Strip	98-0400-2327-1
3M Brand Fire Barrier RC-1 Restricting Collar	98-0400-2260-2
3M Brand Fire Barrier CS-195+ Composite Sheet	98-0400-4869-0
3M Brand Fire Barrier MP Moldable Putty	98-0400-4869-0
3M Brand Fire Barrier PSS 7904 Series Penetration Sealing Systems	98-0701-2690-4(18.71)R1R1

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Figure 1*
3M Brand Fire Barrier Caulks and Moldable Putties
Noncombustible and Combustible Penetrants



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Figure 2*
3M Brand Fire Barrier FS-195+ Wrap/Strip

