Prilog 9

Živčić, Juraj

Supplement / Prilog

Sprinkler - Viking
SU - 5 mm, K80 und K115

Maße in **mm**; Gewicht in **kg/St.**

sprinkler - Viking
SU - 5 mm, K80 and K115

*dimensions in **mm**; weight in **kg/pc***

Gesamtlänge / *overall length*
K80 = 56 mm, K115 = 60 mm

VdS

CE
0832 - CPD - 2001

FM APPROVED

LPCB

Bezeichnung *designation*	Art.-Nr. *order no.*	Gewicht *weight*
Sprinkler SU1/2"-K 80- 68°C-5mm-Ms	91 9935	0,088
Sprinkler SU1/2"-K 80- 79°C-5mm-Ms	92 0332	
Sprinkler SU1/2"-K 80- 93°C-5mm-Ms	92 0325	
Sprinkler SU1/2"-K 80-141°C-5mm-Ms	92 0324	
Sprinkler SU3/4"-K115- 68°C-5mm-Ms	91 9515	0,102
Sprinkler SU3/4"-K115- 79°C-5mm-Ms	91 9588	
Sprinkler SU3/4"-K115- 93°C-5mm-Ms	91 9586	
Sprinkler SU3/4"-K115-141°C-5mm-Ms	91 9545	

Techn. Daten:

Sprinkler ID Nummer (SIN) K80 .....VK145
K115 .....VK200
Sprühcharakteristik .....Schirmsprinkler SU, stehend
Ansprechempfindlichkeit .....Standard-Response RTI > 80
Auslösetemperatur .....68 °C, 79 °C, 93 °C und 141 °C
K-Faktor .....80 und 115
Anschlussgewinde K80 .....NPT 1/2" (DN15)
K115 .....NPT 3/4" (DN20)
Betriebsdruck .....max. 12 bar
Auslösedruck .....min. 0,5 bar; min. 0,35 bei CE
CE - Konformität .....gemäß EN 12259-1: 1999 + A3:2006
Sprinklerkörper und Sprühteller .....Messing

technical data:

SIN K80 .....VK145
K115 .....VK200
characteristics .....spray sprinkler SU, upright
response sensitivity .....standard response RTI > 80
release temperature .....68 °C, 79 °C, 93 °C and 141 °C
k factor .....80 and 115
connection thread K80 .....NPT 1/2" (DN15)
K115 .....NPT 3/4" (DN20)
operating pressure .....max. 12 bar
release pressure .....min. 0,5 bar; min. 0,35 bar for CE
CE conformity .....in acc. with EN 12259-1: 1999 + A3:2006
sprinkler body and deflector .....brass

nicht im Lieferumfang enthalten:

Sprinkler nur mit Spezialwerkzeug montieren:
- Sprinklerschlüssel Viking - Standard 84 7853, M2-00-41
- Sprinklerschlüssel Nuss Viking 84 9788, M2-00-41

Schutzkorb Viking A-1.....84 9746, M2-00-42
Schutzkorb B-1-U m. Prallteller Viking 84 7855, M2-00-42

not included in delivery:

fitting of sprinkler with special tool only:
- sprinkler spanner Viking standard 84 7853, M2-00-41
- sprinkler spanner resessed Viking 84 9788, M2-00-41

sprinkler guard Viking A-1 .....84 9746, M2-00-42
sprinkler guard B-1-U with baffle plate Viking ..84 7855, M2-00-42

Herstellerangaben siehe Anlagen!

manufacturer data see enclosures!

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK145 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Viking Micromatic® Standard Response Upright Sprinkler VK145 is a small, thermosensitive, glass-bulb spray sprinkler available in several different finishes, temperature ratings, and K-Factors to meet design requirements. The special Polyester coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Chart. (FM Global has no approval classification for Polyester coatings as corrosion resistant.)

Viking standard response sprinklers may be ordered and/or used as open sprinklers (glass bulb and pip cap assembly removed) on deluge systems. Refer to Ordering Instructions.

2. LISTINGS AND APPROVALS

FM Approved: Class Series 2000

VdS Approved: Certificate G414003

LPCB Approved

CE Certified: Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2001 and 0786-CPD-40137

NOTE: Other International approval certificates are available upon request.

Refer to Approval Chart 2 and Design Criteria FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)*
Maximum Working Pressure: 175 psi (12 bar) wwp
Factory tested hydrostatically to 500 psi (34.5 bar)
Thread size: 1/2" NPT, 15 mm BSP
Nominal K-Factor: 5.6 U.S. (80.6 metric**)
Glass-bulb fluid temperature rated to -65 °F (-55 °C)
Overall Length: 2-3/16" (56 mm)

Viking Technical Data may be found on The Viking Corporation's Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.

*cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

** Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Material Standards:

Frame Casting: Brass UNS-C84400 or QM Brass
Deflector: Copper UNS-C19500
Bulb: Glass, nominal 5 mm diameter
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Screw: Brass UNS-C36000
Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
For Polyester Coated Sprinklers: Belleville Spring-Exposed

Ordering Information: (Also refer to the current Viking price list.)

Order Micromatic® Standard Response Upright Sprinklers by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.
Finish Suffix: Brass = A, Chrome = F, White Polyester = M-/W, Black Polyester = M-/B, Wax Coated = C, Wax Over Polyester = V-/W
Temperature Suffix (°F/°C): 135°/68° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, 212°/100° = M, 286°/141° = G, 360°/182° = H, 500°/260° = L, OPEN = Z (PTFE only).
For example, sprinkler VK145 with a 1/2" thread, Brass finish and a 155 °F/68 °C temperature rating = Part No. 13001AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

Sprinkler Wrenches:

A. Standard Wrench: Part No. 10896W/B (available since 2000)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

B. Wrench for wax-coated sprinklers: Part No. 13577W/B** (available since 2006)
**A ½" ratchet is required (not available from Viking).

Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)
B. Twelve-head capacity: Part No. 01725A (available since 1971)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Micromatic® Standard Response Upright Sprinkler VK145 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

Enclosure to M2-00-40 part 1

Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK145 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating[1]	Maximum Ambient Ceiling Temperature[2]	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
Intermediate	212 °F (100 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue
Extra High	360 °F (182 °C)	300 °F (149 °C)	Mauve
Ultra High[3]	500 °F (260 °C)	465 °F (240 °C)	Black

Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester

Corrosion-Resistant Coatings[4]: White Polyester, Black Polyester, Wax-Coated Brass, and Wax over Polyester for sprinklers with the following temperature ratings:

135 °F (57 °C) Off-White Wax | 155 °F (68 °C) Lt. Brown Wax | 175 °F (79 °C) Brown Wax
200 °F (93 °C) Brown Wax | 212 °F (100 °C) Dk. Brown Wax[5] | 286 °F (141 °C) Dk. Brown Wax[5]

Footnotes

[1] The sprinkler temperature rating is stamped on the deflector.

[2] Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

[3] Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), response time may be severely retarded.

[4] The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester coatings.

[5] Wax melting point is 170 °F (76 °C) for 212 °F (100 °C) and 286 °F (141 °C) temperature rated sprinklers.

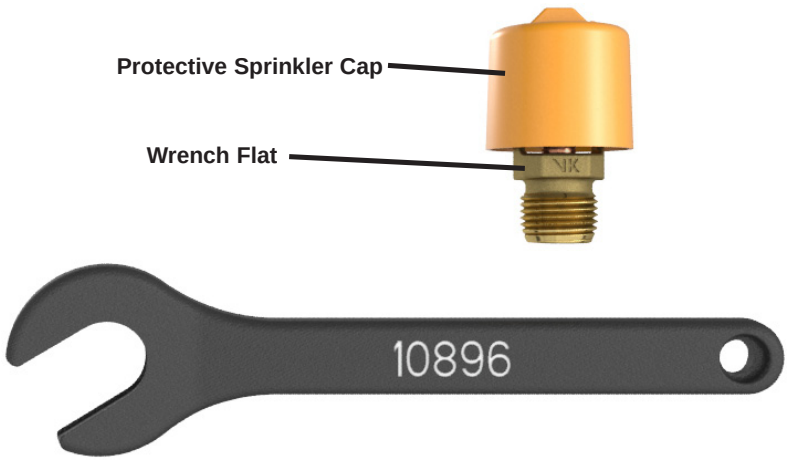


Figure 1:
Standard Sprinkler Wrench 10896W/B

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK145 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 1

Micromatic® Standard Response Upright Sprinkler VK145
Maximum 175 PSI (12 bar) WWP

KEY: A1X — Temperature, Finish, Escutcheon (if applicable)

Base Part Number[1]	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals[3]			
		NPT	BSP	U.S.	metric[2]	Inches	mm	cULus	VdS	LPCB	CE[4]
13001	VK145	1/2”	15 mm	5.6	80.6	2-3/16	56	--	A1	A1, B2	A1
12990	VK145	--	15 mm	5.6	80.6	2-3/16	56	--	A1	A1, B2	A1

Approved Temperature Ratings

A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)
B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)

Approved Finishes

1 - Brass, Chrome, White Polyester, and Black Polyester
2 - Wax-Coated Brass and Wax over Polyester

Footnotes

[1] Base part number is shown. For complete part number, refer to Viking’s current price schedule.
[2] Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.
[3] This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
[4] CE Certified, Standard EN 12259-1, EC-certificate of conformity 0786-CPD-40137 and 0832-CPD-2001

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page SR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

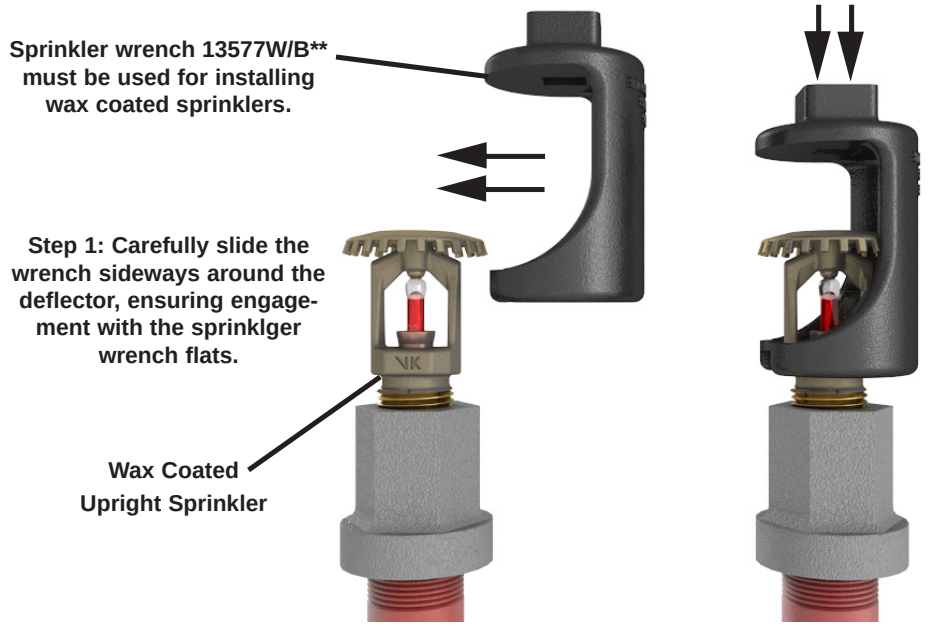


Figure 2: Wrench 13577W/B for Wax Coated Sprinklers

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK145 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 2 (FM)

Micromatic® Standard Response Upright Sprinkler VK145
Maximum 175 PSI (12 bar) WWP

KEY: A1X — Temperature, Finish, Escutcheon (if applicable)

Base Part Number[1]	SIN	Thread Size		Nominal K-Factor		Overall Length		FM Approvals[3] (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric[2]	Inches	mm	
13001	VK145	1/2”	15 mm	5.6	80.6	2-3/16	56	A1, B2, C3, D1
12990	VK145	--	15 mm	5.6	80.6	2-3/16	56	A1, B2, D1

Approved Temperature Ratings

A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 212 °F (100 °C), 286 °F (141 °C), and 360 °F (182 °C)
B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)
C - 286 °F (141 °C)
D - 500 °F (260 °C)[4]

Approved Finishes

1 - Brass, Chrome, White Polyester, and Black Polyester
2 - White Polyester and Wax-Coated Brass (corrosion resistant)
3 - 200 °F (93 °C) High-Temperature Wax Coating (corrosion resistant); maximum ambient temperature allowed at ceiling = 150 °F (65 °C)

Footnotes

[1] Base part number is shown. For complete part number, refer to Viking’s current price schedule.
[2] Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.
[3] This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
[4] Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), the response time of the Ultra-High temperature rated sprinkler may be severely retarded.

DESIGN CRITERIA - FM

(Also refer to Approval Chart 2 above.)

FM Approval Requirements:

Sprinkler VK145 is FM Approved as standard response **Non-Storage** upright sprinklers as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page SR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK200 (K8.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Viking Micromatic® Standard Response Upright VK200 Sprinkler is a small, thermosensitive, glass-bulb spray sprinkler available in several different finishes, temperature ratings, and K-Factors to meet design requirements. The special Polyester, Polytetrafluoroethylene (PTFE), and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive atmospheres and are listed/approved as corrosion resistant as indicated in the Approval Charts. (Note: **FM Global approves the ENT coating as corrosion resistant.** FM Global has no approval classification for PTFE and Polyester coatings as corrosion resistant.)

Viking standard response sprinklers may be ordered and/or used as open sprinklers (glass bulb and pip cap assembly removed) on deluge systems. Refer to Ordering Instructions.

2. LISTINGS AND APPROVALS

cULus Listed: Category VNIV

FM Approved: Class Series 2000

VdS Approved: Certificates G414013 and G414014

LPCB Approved

CE Certified: Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2001

NOTE: Other International approval certificates are available upon request.

Refer to Approval Chart 1 and UL Design Criteria on pages cULus Listing requirements, and refer to Approval Chart 2 and FM Design Criteria for FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)†
Maximum Working Pressure: 175 psi (12 bar) wwp
Factory tested hydrostatically to 500 psi (34.5 bar)
Thread size: 1/2” NPT, 15 mm BSP, 3/4” NPT, 20 mm BSP
Nominal K-Factor: 8.0 U.S. (115.2 metric**)
Glass-bulb fluid temperature rated to -65 °F (-55 °C)
Overall Length: 2-3/8” (60 mm)

† cULus Listing, FM Approval, and NFPA 13 installs require a minimum of 7 psi (0.5 bar). The minimum operating pressure for LPCB and CE Approvals ONLY is 5 psi (0.35 bar).

** Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Viking Technical Data may be found on The Viking Corporation’s Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.

Material Standards:

Frame Casting: Brass UNS-C84400
Deflector: Copper UNS-C19500
Bulb: Glass, nominal 5 mm diameter
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
Screw: Brass UNS-C36000
Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
For PTFE Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated
For Polyester Coated Sprinklers: Belleville Spring-Exposed
For ENT coated Sprinklers: Belleville Spring - Exposed, Screw and Pipcap - ENT plated.

††Not for FM Approval.

Ordering Information: (Also refer to the current Viking price list.)

Order Micromatic® and MicromaticHP® Standard Response Upright Sprinklers by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Finish Suffix: Brass = A, Chrome = F, White Polyester = M-/W, Black Polyester = M-/B, Black PTFE = N, Wax Coated = C, Wax Over Polyester = V-/W, ENT = JN

Temperature Suffix: 135 °F (57 °C) = A, 155 °F (68 °C) = B, 175 °F (79 °C) = D, 200 °F (93 °C) = E, 212 °F (100 °C) = M, 286 °F (141 °C) = G, 360 °F (182 °C) = H, 500 °F (260 °C) = L, OPEN = Z (PTFE only).

For example, sprinkler VK200 with a 1/2" thread, Brass finish and a 155 °F (68 °C) temperature rating = Part No. 18268AB

Available Finishes And Temperature Ratings: Refer to Table 1.

Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

Sprinkler Wrenches:

A. Standard Wrench: Part No. 10896W/B (available since 2000).
D. Wrench for Wax Coated Sprinklers: Part No. 13577W/B* (available since 2006)

*A ½" ratchet is required (not available from Viking).

Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)
B. Twelve-head capacity: Part No. 01725A (available since 1971)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

The Viking Micromatic® Standard Response Upright Sprinkler VK200 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK200 (K8.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating[1]	Maximum Ambient Ceiling Temperature[2]	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue
Extra High	360 °F (182 °C)	300 °F (149 °C)	Mauve
Ultra High[3]	500 °F (260 °C)	465 °F (240 °C)	Black

Sprinkler Finishes: Brass, Chrome, White Polyester, Black Polyester, Black PTFE, and ENT

Corrosion-Resistant Coatings[4]: White Polyester, Black Polyester, and Black PTFE in all temperature ratings. ENT in all tempurature ratings except 135 °F (57 °C). Wax-Coated Brass and Wax over Polyester[5] for sprinklers with the following temperature ratings:

135 °F (57 °C) Off-White Wax 155 °F (68 °C) Lt. Brown Wax 175 °F (79 °C) Brown Wax 200 °F (93 °C) Brown Wax 286 °F (141 °C) Dk. Brown Wax[5]

Footnotes

[1] The sprinkler temperature rating is stamped on the deflector.

[2] Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

[3] Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), response time may be severely retarded.

[4] The corrosion-resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the coatings indicated are applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with Polyester, ENT, and PTFE coatings. For PTFE coated open sprinklers only, the waterway is coated. For ENT coated automatic sprinklers, the waterway is coated.

[5] Wax melting point is 170 °F (76 °C) for 286 °F (141 °C) temperature rated sprinklers.

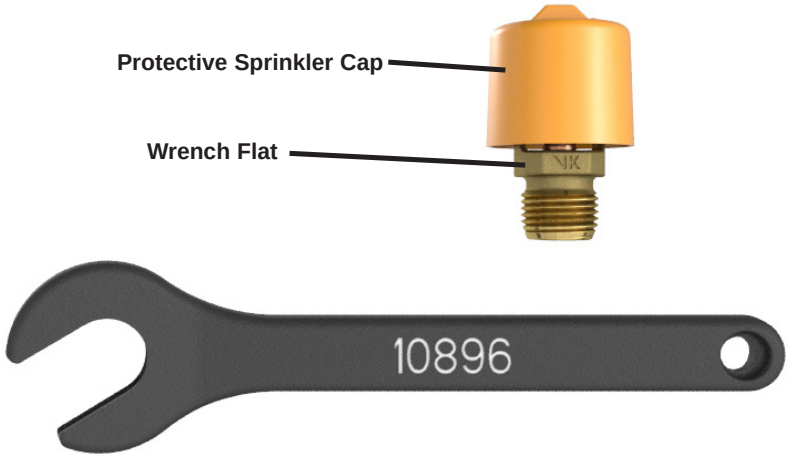


Figure 1:
Standard Sprinkler Wrench 10896W/B

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK200 (K8.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 1 (UL)

Micromatic® Standard Response Upright Sprinklers
Maximum 175 PSI (12 bar) WWP

KEY: A1X — Temperature, Finish, Escutcheon (if applicable)

Sprinkler Base Part Number[1]	SIN	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals[3] (Refer also to UL Design Criteria.)			
		NPT	BSP	U.S.	metric[2]	Inches	mm	cULus[4]	VdS	LPCB	CE[8]
Standard Orifice											
18268[9]	VK200	1/2”	15 mm	8.0	115.2	2-1/4”	57	A1, B4, C5, D3, E6	A2	A2, B4	F3
18263	VK200	3/4”	20 mm	8.0	115.2	2-1/4”	57	A1, B4, C5, D3, E6	A2	A2, B4	F3
18266	VK200	--	20 mm	8.0	115.2	2-1/4”	57	A1, B4, C5, D3, E6	A2	A2, B4	F3

Approved Temperature Ratings

A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)

B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)

C - 286 °F (141 °C)

D - 500 °F (260 °C)[7]

E - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), 360 °F (182 °C), and 500 °F (260 °C)[7]

F - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C)

Approved Finishes

1 - Brass, Chrome, White Polyester[5,6], Black Polyester[5,6], and Black PTFE[5]

2 - Brass, Chrome, White Polyester[6], and Black Polyester[6]

3 - Brass and Chrome

4 - Wax-Coated Brass and Wax Over Polyester[5]

5 - High Temperature 200 °F (93 °C) Wax Coating (corrosion resistant); maximum ambient temperature allowed at ceiling = 150 °F (65 °C)

6 - ENT[5]

Footnotes

[1] Base part number is shown. For complete part number, refer to Viking’s current price schedule.

[2] Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

[3] This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.

[4] Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada.

[5] cULus Listed as corrosion resistant.

[6] Other colors are available on request with the same Listings and Approvals as the standard colors.

[7] Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), the response time of the Ultra-High temperature rated sprinkler may be severely retarded.

[8] CE Certified, Standard EN 12259-1, EC-certificate of conformity 0832-CPD-2001.

[9] The 1/2” NPT Large Orifice Sprinkler is listed and approved for retrofit only when installed in accordance with NFPA 13.

DESIGN CRITERIA - UL

(Also refer to Approval Chart 1.)

cULus Listing Requirements:

The Viking Micromatic® Standard Response Upright Sprinkler VK200 is cULus Listed as indicated in Approval Chart 1 for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Designed for use in Light, Ordinary, and Extra Hazard occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray upright sprinklers must be followed.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page SR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

Enclosure to M2-00-40 part 1
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK200 (K8.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Approval Chart 2 (FM)

Micromatic® Standard Response Upright Sprinklers
Maximum 175 PSI (12 bar) WWP

KEY: A1X — Temperature, Finish, Escutcheon (if applicable)

Sprinkler Base Part Number[1]	SIN	Thread Size		Nominal K-Factor		Overall Length		FM Approvals[3] (Refer also to Design Criteria below.)
		NPT	BSP	U.S.	metric[2]	Inches	mm	
Standard Orifice								
18268[7]	VK200	1/2”	15 mm	8.0	115.2	2-1/4”	57	A1, B2, C1, D3
18263	VK200	3/4”	20 mm	8.0	115.2	2-1/4”	57	A1, B2, C1, D3
18266	VK200	--	20 mm	8.0	115.2	2-1/4”	57	A1, B2, C1, D3

Approved Temperature Ratings

A-135°F(57°C),155°F(68°C),175°F(79°C),200°F(93°C), 286 °F (141 °C), and 360 °F (182 °C)

B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)

C - 500 °F (260 °C)[5]

D - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), 360 °F (182 °C), and 500 °F (260 °C)[5]

Approved Finishes

1 - Brass, Chrome, White Polyester[4], and Black Polyester[4]

2 - Wax-Coated Brass (corrosion resistant)

3- ENT[6]

Footnotes

[1] Base part number is shown. For complete part number, refer to Viking’s current price schedule.

[2] Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

[3] This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.

[4] Other colors are available on request with the same Approvals as the standard colors.

[5] Sprinklers of Ultra-High temperature rating are intended for use inside ovens, dryers, or similar enclosures with normal operating temperatures above 300 °F (149 °C). Where the ambient temperature around the Ultra-High temperature rated sprinkler is significantly reduced below 300 °F (149 °C), the response time of the Ultra-High temperature rated sprinkler may be severely retarded.

[6] FM approved as corrosion resistant.

[7] The 1/2” NPT Large Orifice Sprinkler is listed and approved for retrofit only when installed in accordance with NFPA 13.

DESIGN CRITERIA - FM

(Also refer to Approval Chart 2.)

FM Approval Requirements:

The Viking Micromatic® Standard Response Upright Sprinkler VK200 is is FM Approved as standard response **Non-Storage** upright sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to page SR1-3 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

Enclosure to M2-00-40 part 1

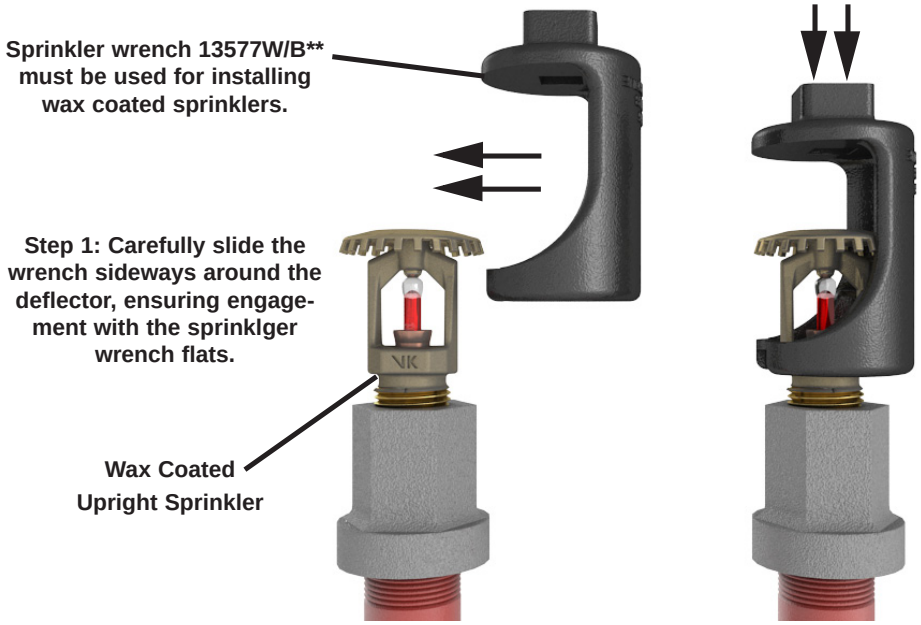
Sprinkler - Viking, SU - 5 mm, K80 and K115

VIKING®

TECHNICAL DATA

MICROMATIC® STANDARD RESPONSE UPRIGHT SPRINKLER VK200 (K8.0)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com



** A 1/2" ratchet is required (not available from Viking)

Step 2: Carefully press the wrench downward and ensure engagement with the sprinkler wrench flats.

Figure 2: Wrench 13577W/B for Wax Coated Sprinklers

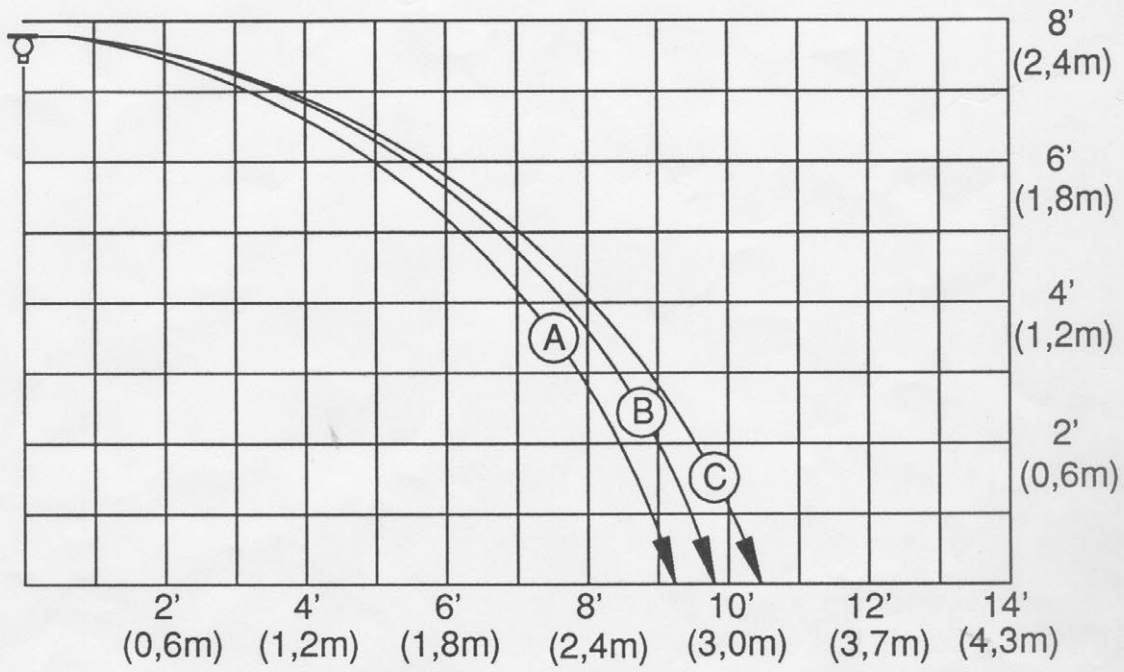
Enclosure to M2-00-40 part 1

Sprinkler - Viking, SU - 5 mm, K80 and K115

February 3, 1992

VIKING **TECHNICAL DATA**

MICROMATIC® MODEL M
1/2" UPRIGHT SPRINKLER
NOMINAL SPRAY PATTERN



Typical profile of one half of the spray pattern produced by a Viking Micromatic Model M 1/2" (15mm) Orifice Sprinkler

K-Factor: 5.5 - $\frac{GPM}{\sqrt{PSI}}$ 79 - $\frac{L/Min}{\sqrt{BAR}}$ 7,9 - $\frac{L/Min}{\sqrt{kPa}}$

Pattern	PSI	GPM	kPa	BAR	LITERS/MIN
A	7	14.6	(48,3)	(0,48)	(55,3)
B	15	21.3	(103,4)	(1,03)	(80,6)
C	30	30.1	(206,8)	(2,07)	(113,9)

Numbers shown in brackets ( ) denote approximate metric dimensions, flow rates or pressures

Caution

The above typical spray patterns have been generated with a sprinkler properly installed below a smooth, level, unvented ceiling. Minor water spray may exceed the pattern shown. Any deviation to the piping arrangement, deflector distance below the ceiling, water pressure, obstructions on the ceiling, ventilation, etc., may affect the spray pattern. Sprinklers are designed and approved to meet specific spray patterns and other criteria established by the testing agencies. The testing criteria and method has been established to meet specific installation rules. Deviation from recognized installation rules must be approved by the Authority Having Jurisdiction. Only full scale fire testing can establish if reasonable fire protection is being provided when recognized installation rules are not followed.

Form No. 020492

Enclosure to M2-00-40 part 1

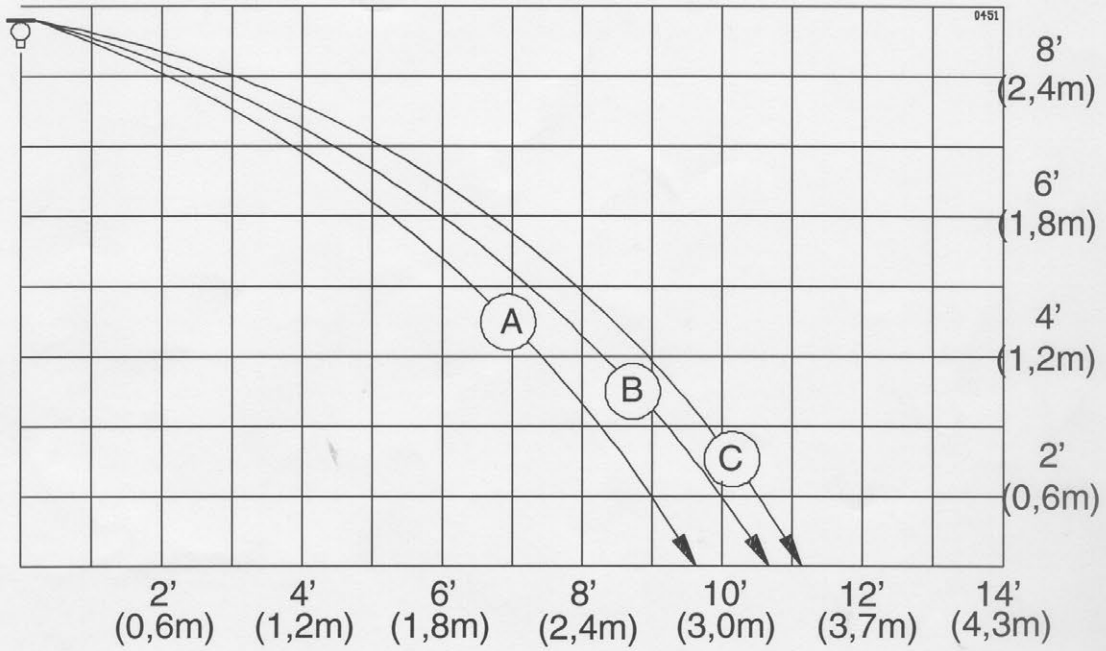
Sprinkler - Viking, SU - 5 mm, K80 and K115

July 23, 1992

VIKING

TECHNICAL DATA

MICROMATIC® MODEL M
3/4" UPRIGHT SPRINKLER
NOMINAL SPRAY PATTERN



Typical profile of one half of the spray pattern produced by a Viking Micromatic Model M 3/4" (20mm) Orifice Upright Sprinkler

Pattern	PSI	GPM	kPa	BAR	LITERS/MIN
A	7	21.2	(48,3)	(0,48)	(80,3)
B	15	31.0	(103,4)	(1,03)	(117,3)
C	30	43.8	(206,8)	(2,07)	(165,8)

Numbers shown in brackets ( ) denote approximate metric dimensions, flow rates or pressures

Caution

The above typical spray patterns have been generated with a sprinkler properly installed below a smooth, level, unvented ceiling. Minor water spray may exceed the pattern shown. Any deviation to the piping arrangement, deflector distance below the ceiling, water pressure, obstructions on the ceiling, ventilation, etc., may affect the spray pattern. Sprinklers are designed and approved to meet specific spray patterns and other criteria established by the testing agencies. The testing criteria and method has been established to meet specific installation rules. Deviation from recognized installation rules must be approved by the Authority Having Jurisdiction. Only full scale fire testing can establish if reasonable fire protection is being provided when recognized installation rules are not followed.

Form No. 062692