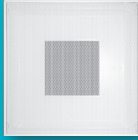




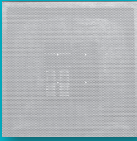

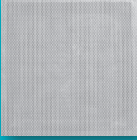



	<p>6100, 6150 56100, 56150 These perforated supply ceiling diffusers feature a neck mounted rotatable core with either a round or square neck. Aluminum or steel perforated face is available.</p>		<p>6490, 56490 These perforated ceiling returns feature a square neck. Aluminum or steel perforated face is available.</p>
	<p>6200, 56200 6200FR, 6290F These perforated supply, ceiling diffusers feature neck mounted curved blades with a square neck. Aluminum or steel perforated face is available. Fire rated or filter return variations available.</p>		<p>6600, 56600, 6600FR These perforated supply ceiling diffusers feature face mounted deflectors with a round neck. Aluminum or steel perforated face is available. A fire rated variation is also available.</p>
	<p>6500, 56500 6500FR, 6590FR These perforated supply, ceiling diffusers feature neck mounted curved blades with a round neck. Aluminum or steel perforated face is available. Fire rated supply and return variations available.</p>		<p>6690, 56690 These perforated ceiling returns feature a round neck. Aluminum or steel perforated face is available.</p>
	<p>6300 This perforated supply, ceiling diffuser features face mounted deflectors and a prescored fiberglass backpan for field cutting. Available in steel construction only.</p>		<p>6790, 56790 These aluminum or steel perforated screen ceiling panels with no backpan are great for non-ducted return or exhaust applications.</p>
	<p>6390 This perforated return features a prescored fiberglass backpan for field cutting. Available in steel construction only.</p>		<p>1100, 51100 These architectural, perforated, supply ceiling diffusers feature neck mounted curved blades with a square or rectangular neck. Available in steel or aluminum construction. A metric version is also available.</p>
	<p>6400, 56400, 6400FR These perforated supply ceiling diffusers feature face mounted deflectors with a square neck. Aluminum or steel perforated face as well as a fire rated variations are available.</p>		<p>1190, 51190 These architectural, perforated, ceiling returns feature a square or rectangular neck. Available in steel or aluminum construction.</p>

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Introduction: 1100, 1190 Series

The 1100/51100 series architectural, perforated diffusers use curved blade-type pattern deflectors mounted in the neck and are available in preselected 1, 2, 3, or 4-way discharge air patterns. Individually adjustable curved blades allow field adjustment of the air pattern in each direction, which may be field set to any position between a vertical throw and a tight ceiling, long horizontal throw pattern. The pattern deflectors in the neck create aspiration of secondary air through the perforated face where it is mixed with primary air then discharged through the perforated face. This aspiration and mixing effect reduces the discharge air temperature to avoid cold air drafts. Additionally, it removes smudging material from the secondary air by impingement on the perforated face. Ceiling smudging of adjacent, hard to clean ceiling surfaces is greatly reduced. The 1100/51100 series diffusers exhibit typical isothermal throws of 10' to 18' for 4-way air distribution and 21' to 35' for 1-way air distribution making this diffuser an excellent choice for irregular room shapes. Matching returns are the 1190 and 51190 series.

MODELS

- 1100 - Steel Backpan with Aluminum Frame, Steel Perforated Face with Aluminum Frame Supply Diffuser
- 1190 - Steel Backpan with Aluminum Frame, Steel Perforated Face with Aluminum Frame Return
- 51100 - Aluminum Backpan with Aluminum Frame, Aluminum Perforated Face with Aluminum Frame Supply Diffuser
- 51190 - Aluminum Backpan with Aluminum Frame, Aluminum Perforated Face with Aluminum Frame Return

PANEL SIZES

- 12"x12" • 12"x24"
- 24"x24" • 24"x48"



1100 (Supply)

1190 (Return)

FEATURES

- Square or rectangular necks.
- Architectural extruded aluminum borders.
- Individually adjustable blade pattern deflectors for horizontal to vertical throw.
- Variety of discharge air patterns available.
- Removable perforated face and core for ease of cleaning.

ACCESSORIES

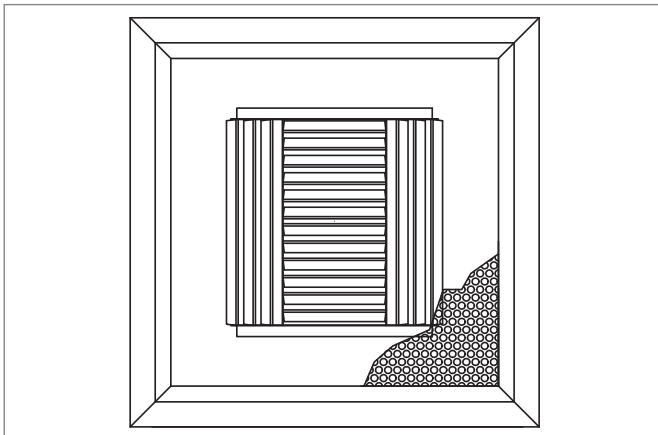
- Optional Opposed Blade Damper (Model OBD)
- Optional Straightening Grid

FINISHES

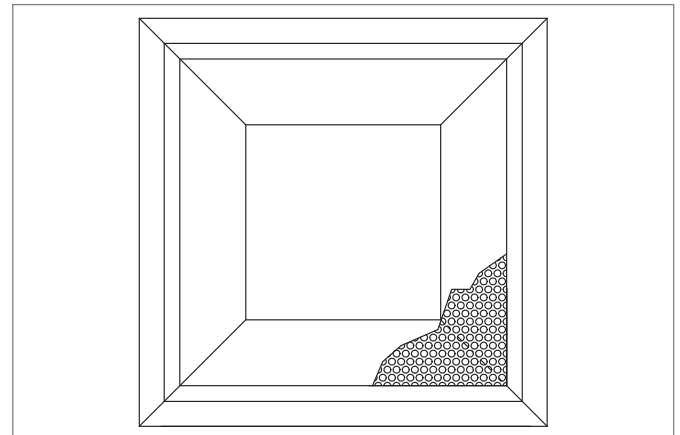
- Standard finish is #44 British White.
- Optional finishes available.

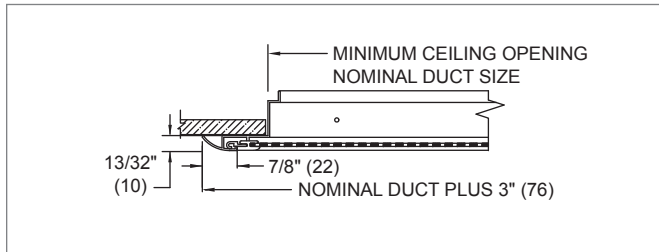
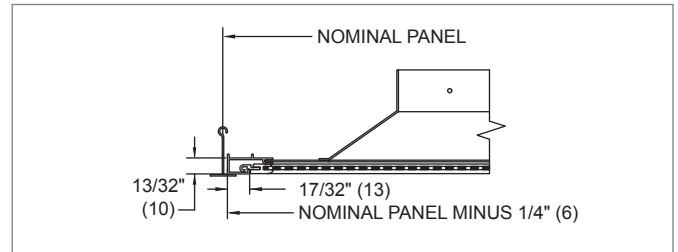
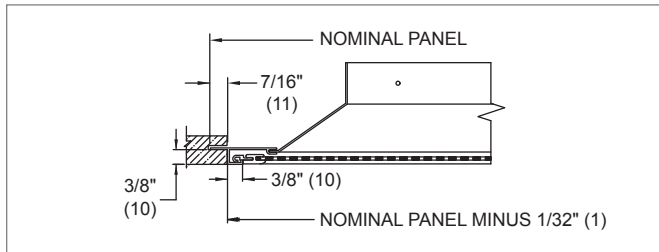
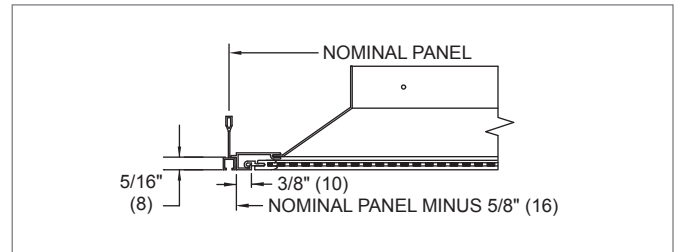
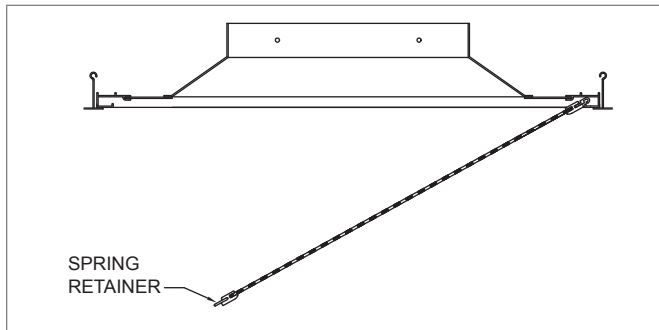
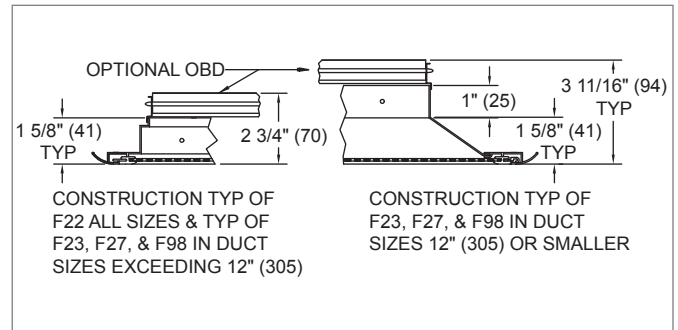
1100, 51100, 1190, 51190 (Supply/Return) Face Views

1100, 51100, SUPPLY FACE VIEW



1190, 51190, RETURN FACE VIEW



1190, 51190 (Return) Dimensional Information & Frame Styles
1190, 51190, FRAME 22, SURFACE MOUNT (CURVED)

1190, 51190, FRAME 23, LAY-IN T-BAR

1190, 51190, FRAME 27, SPLINE

1190, 51190, FRAME 98, NARROW-T

1190, 51190, HINGE DETAIL

1190, 51190, CROSS SECTION

1190, 51190, AVAILABLE SIZES

Frame Style	Surface Mount	Standard T-Bar				Spline, Narrow-T			
Frame Code	F22	Frame 23				Frame 27 & 98			
Neck Size		12"x12" (305x305)	12"x24" (305x610)	24"x24" (610x610)	24"x48" (610x1219)	12"x12" (305x305)	12"x24" (305x610)	24"x24" (610x610)	24"x48" (610x1219)
6" x 6" (152 x 152)
8" x 8" (203 x 203)
10" x 10" (254 x 254)
12" x 12" (305 x 305)
14" x 14" (356 x 356)
16" x 16" (406 x 406)
18" x 18" (457 x 457)
20" x 20" (508 x 508)
10" x 22" (254 x 559)
22" x 22" (559 x 559)
12" x 24" (305 x 610)
24" x 24" (610 x 610)
22" x 46" (559 x 1168)

NOTES: Dimensions in parentheses are mm. Dot indicates available neck size.

PERFORATED FACE DIFFUSERS

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1190, 51190 (Return) Performance Data

IP/METRIC DATA: 1190, 51190 (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
10" x 10"	300	208	0.006	-0.010	-	1.52	98	1.4	-2.5	48	18	-	-	-	-	
	400	278	0.010	-0.018	-	2.03	131	2.5	-4.4	49	22	14	12	-	-	
	500	347	0.016	-0.028	11	2.54	164	3.9	-6.9	50	25	19	17	13	-	
	600	417	0.022	-0.040	16	3.05	197	5.6	-10.0	51	28	23	21	18	-	
	700	486	0.031	-0.055	20	3.56	229	7.6	-13.6	52	31	26	24	22	13	
	800	556	0.040	-0.071	24	4.06	262	9.9	-17.8	52	33	28	27	26	19	
	900	625	0.051	-0.090	27	4.57	295	12.6	-22.5	53	34	31	30	29	24	
	1000	694	0.062	-0.112	30	5.08	328	15.5	-27.8	53	36	33	32	32	28	
12" x 12"	300	300	0.006	-0.012	-	1.52	142	1.4	-3.11	46	20	11	-	-	-	
	400	400	0.010	-0.022	-	2.03	189	2.5	-5.53	47	24	17	15	11	-	
	500	500	0.016	-0.035	14	2.54	236	3.9	-8.63	48	28	22	20	17	-	
	600	600	0.022	-0.050	18	3.05	283	5.6	-12.43	49	31	26	24	22	12	
	700	700	0.031	-0.068	22	3.56	330	7.6	-16.92	50	33	29	27	26	19	
	800	800	0.040	-0.089	26	4.06	378	9.9	-22.10	51	35	31	30	30	24	
	900	900	0.051	-0.112	29	4.57	425	12.6	-27.97	51	37	34	33	33	29	
	1000	1000	0.062	-0.139	32	5.08	472	15.5	-34.54	52	39	36	35	36	33	
14" x 14"	300	408	0.006	-0.015	-	1.52	193	1.4	-3.83	45	22	14	11	-	-	
	400	544	0.010	-0.027	-	2.03	257	2.5	-6.80	46	27	20	17	14	-	
	500	681	0.016	-0.043	15	2.54	321	3.9	-10.63	47	30	24	22	20	-	
	600	817	0.022	-0.061	20	3.05	385	5.6	-15.31	48	33	28	26	25	17	
	700	953	0.031	-0.084	24	3.56	450	7.6	-20.84	48	35	31	29	30	23	
	800	1089	0.040	-0.109	28	4.06	514	9.9	-27.22	49	37	34	32	33	28	
	900	1225	0.051	-0.138	31	4.57	578	12.6	-34.45	50	39	36	35	37	33	
	1000	1361	0.062	-0.171	34	5.08	642	15.5	-42.53	50	41	39	37	40	37	
10" x 22"	300	458	0.006	-0.017	-	1.52	216	1.4	-4.16	44	23	15	12	-	-	
	400	611	0.010	-0.030	-	2.03	288	2.5	-7.39	45	27	21	18	16	-	
	500	764	0.016	-0.046	16	2.54	361	3.9	-11.55	46	31	25	23	22	11	
	600	917	0.022	-0.067	21	3.05	433	5.6	-16.64	47	34	29	27	27	18	
	700	1069	0.031	-0.091	25	3.56	505	7.6	-22.65	48	36	32	30	31	24	
	800	1222	0.040	-0.119	29	4.06	577	9.9	-29.58	48	38	35	33	35	30	
	900	1375	0.051	-0.150	32	4.57	649	12.6	-37.43	49	40	37	36	38	35	
	1000	1528	0.062	-0.186	34	5.08	721	15.5	-46.22	49	41	40	38	41	39	
16" x 16"	300	533	0.006	-0.019	-	1.52	252	1.4	-4.66	43	24	16	13	-	-	
	400	711	0.010	-0.033	11	2.03	336	2.5	-8.28	45	28	22	19	17	-	
	500	889	0.016	-0.052	17	2.54	420	3.9	-12.94	46	32	27	24	24	13	
	600	1067	0.022	-0.075	22	3.05	503	5.6	-18.63	46	35	30	28	29	20	
	700	1244	0.031	-0.102	26	3.56	587	7.6	-25.36	47	37	34	31	33	27	
	800	1422	0.040	-0.133	30	4.06	671	9.9	-33.12	48	39	36	34	36	32	
	900	1600	0.051	-0.168	33	4.57	755	12.6	-41.92	48	41	39	37	40	37	
	1000	1778	0.062	-0.208	35	5.08	839	15.5	-51.75	49	42	41	39	43	41	
18" x 18"	300	675	0.006	-0.022	-	1.52	319	1.4	-5.60	42	26	18	15	12	-	
	400	900	0.010	-0.040	13	2.03	425	2.5	-9.95	43	30	24	21	20	-	
	500	1125	0.016	-0.062	19	2.54	531	3.9	-15.55	44	33	29	26	26	16	
	600	1350	0.022	-0.090	23	3.05	637	5.6	-22.39	45	36	32	30	31	24	
	700	1575	0.031	-0.122	27	3.56	743	7.6	-30.48	46	39	36	33	36	30	
	800	1800	0.040	-0.160	31	4.06	850	9.9	-39.81	47	41	38	36	39	35	
	900	2025	0.051	-0.202	34	4.57	956	12.6	-50.38	47	42	41	39	42	40	
	1000	2250	0.062	-0.250	37	5.08	1062	15.5	-62.20	48	44	43	41	45	44	
	1100	2475	0.075	-0.302	39	5.59	1168	18.8	-75.26	48	46	45	43	48	48	

NOTE: See page C1-112 for notes.

1190, 51190 | Architectural, Curved Blade

1190, 51190 (Return) Performance Data

IP/METRIC DATA: 1190, 51190 (NO DAMPER)

	IP Data				NC	Metric Data				Octave Band, dB						
	Neck Vel	Air Flow	Pv	Ps		Neck Vel	Air Flow	Pv	Ps	2	3	4	5	6	7	
	FPM	CFM	"WG	"WG		m/s	L/s	Pa	Pa							
20" x 20"	300	833	0.006	-0.027	-	1.52	393	1.4	-6.65	41	27	20	16	15	-	
	400	1111	0.010	-0.047	14	2.03	524	2.5	-11.82	42	32	26	23	23	-	
	500	1389	0.016	-0.074	20	2.54	655	3.9	-18.47	43	35	31	28	29	19	
	600	1667	0.022	-0.107	25	3.05	787	5.6	-26.60	44	38	34	32	34	27	
	700	1944	0.031	-0.145	29	3.56	918	7.6	-36.20	45	40	37	35	38	33	
	800	2222	0.040	-0.190	32	4.06	1049	9.9	-47.28	45	42	40	38	42	38	
	900	2500	0.051	-0.240	35	4.57	1180	12.6	-59.84	46	44	42	41	45	43	
	1000	2778	0.062	-0.297	38	5.08	1311	15.5	-73.88	46	46	45	43	48	47	
22" x 22"	300	1008	0.006	-0.031	-	1.52	476	1.4	-7.81	40	28	22	18	17	-	
	400	1344	0.010	-0.056	15	2.03	635	2.5	-13.89	41	33	28	24	25	13	
	500	1681	0.016	-0.087	21	2.54	793	3.9	-21.70	42	36	32	29	31	22	
	600	2017	0.022	-0.125	26	3.05	952	5.6	-31.24	43	39	36	33	36	29	
	700	2353	0.031	-0.171	30	3.56	1110	7.6	-42.52	44	41	39	36	40	35	
	800	2689	0.040	-0.223	33	4.06	1269	9.9	-55.54	45	43	42	39	44	41	
	900	3025	0.051	-0.282	37	4.57	1428	12.6	-70.30	45	45	44	42	47	46	
	1000	3361	0.062	-0.349	39	5.08	1586	15.5	-86.78	46	47	46	44	50	50	
22" x 46"	100	703	0.001	-0.003	-	0.51	332	0.2	-0.87	32	17	-	-	-	-	
	200	1406	0.003	-0.014	-	1.02	663	0.6	-3.47	35	27	20	14	14	-	
	300	2108	0.006	-0.031	12	1.52	995	1.4	-7.81	37	34	28	23	25	12	
	400	2811	0.010	-0.056	20	2.03	1327	2.5	-13.89	38	38	34	30	33	23	
	500	3514	0.016	-0.087	26	2.54	1658	3.9	-21.70	39	41	38	35	39	32	
	600	4217	0.022	-0.125	30	3.05	1990	5.6	-31.24	40	44	42	39	44	40	
	700	4919	0.031	-0.171	35	3.56	2322	7.6	-42.52	40	46	45	42	49	46	
	800	5622	0.040	-0.223	38	4.06	2653	9.9	-55.54	41	49	48	45	52	51	
	900	6325	0.051	-0.282	41	4.57	2985	12.6	-70.30	41	50	50	48	56	56	

NOTES: SUPPLY

Throw values are given for terminal velocities of 150, 100, and 50 FPM (0.75, 0.5, and 0.25 m/s). Throw values are given for isothermal conditions. Dash in space denotes NC or dB value of less than 10. NC values are based on octave band, 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. The throw values given for 1-Way Throw is for [Total CFM] CFM per side (L/s). The throw values given for 2-Way Throw is for [Total CFM/2] CFM per side (L/s). The throw values given for 3-Way Throw is for [Total CFM/3] CFM per side (L/s). The throw values given for 4-Way Throw is for [Total CFM/4] CFM per side (L/s). See Krueger's selection software for performance data not shown, including octave band data.

NOTES: RETURN

NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10⁻¹² Watts. Dash in space denotes NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See Krueger's selection software for performance data not shown, including octave band data.

PERFORATED FACE DIFFUSERS

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1190, 51190 (Return) Suggested Specification & Configuration

1190, 51190

The perforated face return diffuser shall be Krueger model 1190 (steel perforated face and backpan) or 51190 (aluminum perforated face and backpan). The diffusers shall have a perforated face with 3/16" diameter holes on 1/4" centers resulting in a 51% free area. The perimeter of the perforated face and backpan shall be an aluminum extrusion resulting in an aesthetic appearance. The diffuser shall have a tapered backpan made up of four individual pieces resulting in a square neck.

The perforated face must be easily removable from the backpan for access to the damper.

Optional opposed-blade damper (OBD) shall be constructed of heavy gage steel. Damper shall be operable from the face of the diffuser.

PERFORMANCE

The manufacturer shall provide published (printed or electronic) performance data for the diffuser. Performance data shall include 2 - 7 octave band sound power levels. The diffuser shall be tested in accordance to the data standards at the time of product introduction or ANSI/ASHRAE Standard 70.

FINISH

The paint finish shall be #44 British White and be an anodic acrylic paint, baked at 315°F for 30 minutes. The paint thickness shall be 0.8 – 1.0 mils, gloss at 60° per ASTM D523-89 of 50 – 85%, pencil hardness per ASTM D3363-92A of HB – H, crosshatch adhesion per ASTM D3359-83 of 4B – 5B, impact per ASTM D2794-93 of direct impact >100 in/lb and reverse impact >80 in/lb, salt spray per ASTM B117-9048 of 96 hours, humidity per ASTM D2247-92 of >500 hours and water soak per ASTM D870-92 of 250 hours.

- 1. SERIES: (XXXXX)**
1190 - Perforated, Steel Return Diffuser
51190 - Perforated, Aluminum Return Diffuser
- 2. PATTERN: (XX)**
90 - Return
- 3. WIDTH: (XX) ***
6" - 24" in 2" Increments
- 4. HEIGHT: (XX) ***
IF WIDTH =
6" - Select 6"
8" - Select 8"
10" - Select 10" or 22"
12" - Select 12" or 24"
14" - Select 14"
16" - Select 16"
18" - Select 18"
20" - Select 20"
22" - Select 22" or 46"
24" - Select 24"
- 5. FRAME: (XXX)**
F22 - Surface Mount - Curved
F23 - Lay-in T-Bar
F27 - Spline
F98 - Narrow-T
- 6. PANEL: (XX)x(XX)**
NONE
12"x12"
12"x24"
24"x24"
24"x48"
- 7. DAMPERS: (XX)**
00 - No Damper
01 - Steel Opposed Blade Damper (Model OBD)
15 - Aluminum Opposed Blade Damper (Model 5OBD)
- 8. ACCESSORIES: (XX)**
00 - No Accessories
S - Straightening Grid
- 9. FINISH: (XX)**
01 - Mill
03 - Black Backpan with British White Face
10 - Alumican
35 - Black
44 - British White

* See chart on page C1-103 for available neck sizes.

PERFORATED FACE DIFFUSERS

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SAMPLE CONFIGURATION: 51190 - 90 - 12x24 - F22 - NONE - 00 - 00 - 10