

## AS568D - O-RINGS

MFP Seals produces O-Rings in inch and metric sizes. The inch sizes are produced to the AS568D (Aerospace Standard) published by the SAE (Society of Automotive Engineers). These inch size O-Rings are designated by a dash number referenced on the AS568D chart. This standard for O-Rings contains 379 sizes and MFP Seals stocks them in a wide range of materials. A list of available materials appears below.

This information is only to be used as a guide to the selection of seal compounds. Application, as well as temperature, pressures, media, and finishes, should all be considered when choosing seal compounds. Other compounds are available.





## **COMPOUNDS FORMULATED FOR O-RINGS**

Compound Name	Designation	Hardness	Color	Temperat	ure Range
E7101	EPDM	70 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7102	EPDM	80 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7103 (NSF61)	EPDM	70 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7105 (WRAS/NSF61)	EPDM	70 Shore A	Black	-50°C to +150°C	(-58°F to +302°F)
FC7500 - Fluorochem®	FKME	75 Shore A	Black	-22°C to +250°C	(-7°F to +482°F)
FC7510 - Fluorochem®	FKM	75 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
FC7525 - Fluorochem®	FFKM	75 Shore A	Black	-15°C to +320°C	(+5°F to +608°F)
FC7550 - Fluorochem®	FFKM	75 Shore A	White	-15°C to +320°C	(+5°F to +608°F)
FC7575 - Fluorochem®	FFKM	90 Shore A	Black	-15°C to +320°C	(+5°F to +608°F)
FC7600 - Fluorochem®	FFKM	90 Shore A	Black	0°C to +260°C	(+32°F to +500°F)
FC7625 - Fluorochem®	FFKM	90 Shore A	Black	-4°C to +230°C	(+25°F to +446°F)
FC7650 - Fluorochem®	FFKM	70 Shore A	Black	-20°C to +230°C	(-4°F to +446°F)
FC7675 - Fluorochem®	FFKM	75 Shore A	Black	-4°C to +230°C	(+25°F to +446°F)
FC7700 - Fluorochem®	FFKM	75 Shore A	Black	-7°C to +230°C	(+20°F to +446°F)
FC7725 - Fluorochem®	FFKM	75 Shore A	White	-7°C to +230°C	(+20°F to +446°F)
FC7750 - Fluorochem®	FFKM	75 Shore A	Black	-6°C to +300°C	(+21°F to +570°F)
FC7775 - Fluorochem®	FFKM	75 Shore A	Black	-7°C to +230°C	(+20°F to +446°F)
FC7800 - Fluorochem®	FFKM	75 Shore A	Black	-5°C to +320°C	(+23°F to +608°F)
FS7101	FVMQ	70 Shore A	Blue	-60°C to +200°C	(-76°F to +392°F)
N6001	NBR	70 Shore A	Black	-40°C to +100°C	(-40°F to +212°F)
N6003	NBR	90 Shore A	Black	-20°C to +100°C	(-4°F to +212°F)
N6007	HNBR	70 Shore A	Black	-40°C to +125°C	(-40°F to +257°F)
N6008	HNBR	80 Shore A	Black	-35°C to +150°C	(-31°F to +302°F)
N6009	HNBR	90 Shore A	Black	-30°C to +150°C	(-22°F to +302°F)
N6010	HNBR	70 Shore A	Green	-40°C to +150°C	(-40°F to +302°F)
N6011	HNBR	80 Shore A	Green	-25°C to +150°C	(-13°F to +302°F)
N6012	HNBR	90 Shore A	Green	-20°C to +150°C	(-4°F to +302°F)
S7100*	SIL	70 Shore A	Rust Red	-55°C to +240°C	(-67°F to +464°F)
T1000	PTFE	51-60 Shore D	White	-200°C to +260°C	(-328°F to +500°F)
U6865	TPU	70 Shore A	Natural	-81°C to +100°C	(-115°F to +212°F)

Continued on next page.

A product of MFP Seals.

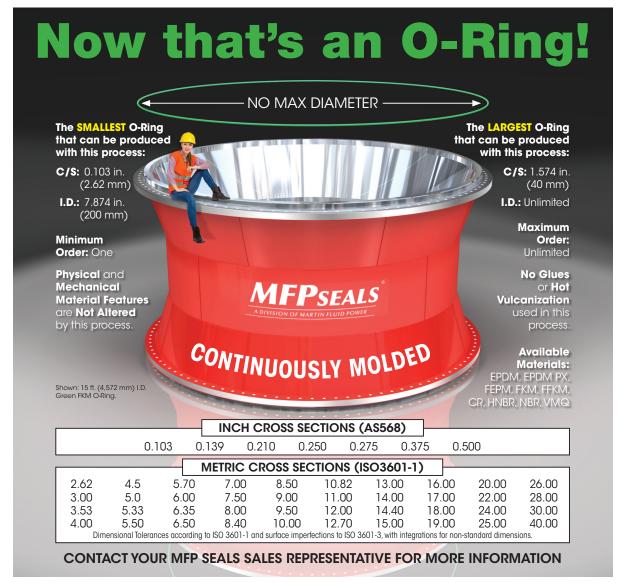




## **COMPOUNDS FORMULATED FOR O-RINGS**

Compound Name	Designation	Hardness	Color	Temperatu	re Range
U9251	TPU	90 Shore A	Natural	-54°C to +150°C	(-65°F to +300°F)
V1125 - Aflas®	FKM	80 Shore A	Black	-0°C to +230°C	(+32°F to +446°F)
V7100	FKM	75 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
V7125	FKM	75 Shore A	Black	-15°C to +200°C	(+5°F to +392°F)
V7150	FKM	75 Shore A	Black	-15°C to +200°C	(+5°F to +392°F)
V7155	FKM	75 Shore A	Brown	-15°C to +200°C	(+5°F to +392°F)
V7165	FKM	90 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
V7175	FKM	90 Shore A	Black	-10°C to +200°C	(+14°F to +392°F)
V7200	FKM	90 Shore A	Black	-30°C to +250°C	(-22°F to +482°F)
V7250	FKM	75 Shore A	Green	-15°C to +200°C	(+5°F to +392°F)
V7325 (AMS-R-83485)	FKM-GLT	75 Shore A	Black	-40°C to +200°C	(-40°F to +392°F)
V7350	FEPM	90 Shore A	Black	-20°C to +220°C	(-4°F to +428°F)

This information is only to be used as a guide to the selection of seal compounds. Application, as well as temperature, pressures, media, and finishes, should all be considered when choosing seal compounds. Other compounds may be available based on application. This is not a complete list of available compounds. For more information contact MFP Seals at sales@mfpseals.com or (248) 585-8170. Fluorochem® (2012) and Ultraflex® (2011) are registered trademarks of Martin Fluid Power Co., Inc. \*FDA Grade w/o Certification. AFLAS® is a registered trademark of the Asahi Glass Co., Ltd.





DASH	NC	MINAL SIZ	E	ACTU	JAL SIZE
NUMBER	ID	OD	C/S	ID	C/S
1/32 - CF	OSS SEC	TION			
-001	1/32	3/32	1/32	.029 ± .004	.040 ± .003
3/64 - CF	OSS SEC	TION			
-002	3/64	9/64	3/64	.042 ± .004	.050 ± .003
1/16 - CF	OSS SEC	TION			
-003	1/16	3/16	1/16	.056 ± .004	.060 ± .003
-004	5/64	13/64	1/16	.070 ± .005	.070 ± .003
-005	3/32	7/32	1/16	.101 ± .005	.070 ± .003
-006	1/8	1/4	1/16	.114 ± .005	.070 ± .003
-007	5/32	9/32	1/16	.145 ± .005	.070 ± .003
-008	3/16	5/16	1/16	.176 ± .005	.070 ± .003
-009	7/32	11/32	1/16	.208 ± .005	.070 ± .003
-010	1/4	3/8	1/16	.239 ± .005	.070 ± .003
-011	5/16	7/16	1/16	.301 ± .005	.070 ± .003
-012	3/8	1/2	1/16	.364 ± .005	.070 ± .003
-013	7/16	9/16	1/16	.426 ± .005	.070 ± .003
-014	1/2	5/8	1/16	.489 ± .005	.070 ± .003
-015	9/16	11/16	1/16	.551 ± .007	.070 ± .003
-016	5/8	3/4	1/16	.614 ± .009	.070 ± .003
-017	11/16	13/16	1/16	.676 ± .009	.070 ± .003
-018	3/4	7/8	1/16	.739 ± .009	.070 ± .003
-019	13/16	15/16	1/16	.801 ± .009	.070 ± .003
-020	7/8	1	1/16	.864 ± .009	.070 ± .003
-021	15/16	1-1/16	1/16	.926 ± .009	.070 ± .003
-022	1	1-1/8	1/16	.989 ± .010	.070 ± .003
-023	1-1/16	1-3/16	1/16	1.051 ± .010	.070 ± .003
-024	1-1/8	1-1/4	1/16	1.114 ± .010	.070 ± .003
-025	1-3/16	1-5/16	1/16	1.176 ± .011	.070 ± .003
-026	1-1/4	1-3/8	1/16	1.239 ± .011	.070 ± .003
-027	1-5/16	1-7/16	1/16	1.301 ± .011	.070 ± .003
-028	1-3/8	1-1/2	1/16	1.364 ± .013	.070 ± .003
-029	1-1/2	1-5/8	1/16	1.489 ± .013	.070 ± .003
-030	1-5/8	1-3/4	1/16	1.614 ± .013	.070 ± .003
-031	1-3/4	1-7/8	1/16	1.739 ± .015	.070 ± .003
-032	1-7/8	2	1/16	1.864 ± .015	.070 ± .003
-033	2	2-1/8	1/16	1.989 ± .018	.070 ± .003
-034	2-1/8	2-1/4	1/16	2.114 ± .018	.070 ± .003
-035	2-1/4	2-3/8	1/16	2.239 ± .018	.070 ± .003
-036	2-3/8	2-1/2	1/16	2.364 ± .018	.070 ± .003
-037	2-1/2	2-5/8	1/16	2.489 ± .018	.070 ± .003
-038	2-5/8	2-3/4	1/16	2.614 ± .020	.070 ± .003
-039	2-3/4	2-7/8	1/16	2.739 ± .020	.070 ± .003
-040	2-7/8	3	1/16	2.864 ± .020	.070 ± .003
-041	3	3-1/8	1/16	2.989 ± .024	.070 ± .003
-042	3-1/4	3-3/8	1/16	3.239 ± .024	$.070 \pm .003$
-043	3-1/2	3-5/8	1/16	3.489 ± .024	$.070 \pm .003$
-044	3-3/4	3-7/8	1/16	3.739 ± .027	.070 ± .003
-045	4	4-1/8	1/16	3.989 ± .027	$.070 \pm .003$
-046	4-1/4	4-3/8	1/16	4.239 ± .030	.070 ± .003
-047	4-1/2	4-5/8	1/16	4.489 ± .030	.070 ± .003
-048	4-3/4	4-7/8	1/16	4.739 ± .030	$.070 \pm .003$
-049	5 1 / /	5-1/8	1/16	4.989 ± .037	.070 ± .003
-050	5-1/4	5-3/8	1/16	5.239 ± .037	.070 ± .003

DASH	NO	MINAL SIZ	Έ	ACTI	JAL SIZE
NUMBER	ID	OD	C/S	ID	C/S
3/32 - CF	ROSS SEC	TION			
-102	1/16	1/4	3/32	.049 ± .005	.103 ± .003
-103	3/32	9/32	3/32	.081 ± .005	.103 ± .003
-104	1/8	5/16	3/32	.112 ± .005	.103 ± .003
-105	5/32	11/32	3/32	.143 ± .005	.103 ± .003
-106	3/16	3/8	3/32	.174 ± .005	.103 ± .003
-107	7/32	13/32	3/32	.206 ± .005	.103 ± .003
-108	1/4	7/16	3/32	.237 ± .005	.103 ± .003
-109	5/16	1/2	3/32	.299 ± .005	.103 ± .003
-110	3/8	9/16	3/32	.362 ± .005	.103 ± .003
-111	7/16	5/8	3/32	.424 ± .005	.103 ± .003
-112	1/2	11/16	3/32	.487 ± .005	.103 ± .003
-113	9/16	3/4	3/32	.549 ± .007	.103 ± .003
-114	5/8	13/16	3/32	.612 ± .009	.103 ± .003
-115	11/16	7/8	3/32	.674 ± .009	.103 ± .003
-116	3/4	15/16	3/32	.737 ± .009	.103 ± .003
-117	13/16	1	3/32	.799 ± .010	.103 ± .003
-118	7/8	1-1/16	3/32	.862 ± .010	.103 ± .003
-119	15/16	1-1/8	3/32	.924 ± .010	.103 ± .003
-120	1	1-3/16	3/32	.987 ± .010	.103 ± .003
-121	1-1/16	1-1/4	3/32	1.049 ± .010	.103 ± .003
-122	1-1/8	1-5/16	3/32	1.112 ± .010	.103 ± .003
-123	1-3/16	1-3/8	3/32	1.174 ± .012	.103 ± .003
-124	1-1/4	1-7/16	3/32	1.237 ± .012	.103 ± .003
-125	1-5/16	1-1/2	3/32	1.299 ± .012	.103 ± .003
-126	1-3/8	1-9/16	3/32	1.362 ± .012	.103 ± .003
-127	1-7/16	1-5/8	3/32	1.424 ± .012	.103 ± .003
-128	1-1/2	1-11/16	3/32	1.487 ± .012	.103 ± .003
-129	1-9/16	1-3/4	3/32	1.549 ± .015	.103 ± .003
-130	1-5/8	1-13/16	3/32	1.612 ± .015	.103 ± .003
-131	1-11/16	1-7/8	3/32	1.674 ± .015	.103 ± .003
-132	1-3/4	1-15/16	3/32	1.737 ± .015	.103 ± .003
-133	1-13/16	2	3/32	1.799 ± .015	.103 ± .003
-134	1-7/8	2-1/16	3/32	1.862 ± .015	.103 ± .003
-135	1-15/16	2-1/8	3/32	1.925 ± .017	.103 ± .003
-136	2	2-3/16	3/32	1.987 ± .017	.103 ± .003
-137	2-1/16	2-1/4	3/32	2.050 ± .017	.103 ± .003
-138	2-1/8	2-5/16	3/32	2.112 ± .017	.103 ± .003
-139	2-3/16	2-3/8	3/32	2.175 ± .017	.103 ± .003
-140	2-1/4	2-7/16	3/32	2.237 ± .017	.103 ± .003
-141	2-5/16	2-1/2	3/32	2.300 ± .020	.103 ± .003
-142	2-3/8	2-9/16	3/32	2.362 ± .020	.103 ± .003
-143	2-7/16	2-5/8	3/32	2.425 ± .020	.103 ± .003
-144	2-1/2	2-11/16	3/32	2.487 ± .020	.103 ± .003
-145	2-9/16	2-3/4	3/32	2.550 ± .020	.103 ± .003
-146	2-5/8	2-13/16	3/32	2.612 ± .020	.103 ± .003
-147	2-11/16	2-7/8	3/32	2.675 ± .022	.103 ± .003
-148	2-3/4	2-15/16	3/32	2.737 ± .022	.103 ± .003
-149	2-13/16	3	3/32	2.800 ± .022	.103 ± .003
-150	2-7/8	3-1/16	3/32	2.862 ± .022	.103 ± .003
-151	3	3-3/16	3/32	2.987 ± .024	.103 ± .003
-152	3-1/4	3-7/16	3/32	3.237 ± .024	.103 ± .003
-153	3-1/2	3-11/16	3/32	3.487 ± .024	.103 ± .003
-154	3-3/4	3-15/16	3/32	3.737 ± .028	.103 ± .003



	NC	MINAL SIZ	F	ACTI	JAL SIZE
DASH Number	ID	OD OD	C/S	ID	C/S
			0/0	10	0/0
<b>3/32 - CR</b> -155	4	4-3/16	2/22	2 007   000	102   002
-156	4-1/4	4-3/16	3/32	3.987 ± .028 4.237 ± .030	.103 ± .003
-157	4-1/4	4-7/16	3/32	4.237 ± .030 4.487 ± .030	.103 ± .003
-157	4-1/2	4-11/10	3/32	4.467 ± .030 4.737 ± .030	.103 ± .003
-159	4-3/4 5	5-3/16	3/32	4.737 ± .030 4.987 ± .035	.103 ± .003
-160	5-1/4	5-7/16	3/32	4.967 ± .035 5.237 ± .035	.103 ± .003
-161	5-1/2	5-11/16	3/32	5.487 ± .035	.103 ± .003
-162	5-3/4	5-15/16	3/32	5.737 ± .035	.103 ± .003
-163	6	6-3/16	3/32	5.987 ± .035	.103 ± .003
-164	6-1/4	6-7/16	3/32		.103 ± .003
-165	6-1/2		3/32	6.487 ± .040	.103 ± .003
-166	6-3/4	6-15/16	3/32	6.737 ± .040	.103 ± .003
-167	7	7-3/16	3/32	6.987 ± .040	.103 ± .003
-168	7-1/4	7-7/16	3/32	7.237 ± .045	.103 ± .003
-169	7-1/4	7-1/16	3/32	7.487 ± .045	.103 ± .003
-170	7-3/4		3/32	7.737 ± .045	.103 ± .003
		7-15/16			.103 ± .003
-171	8	8-3/16	3/32	7.987 ± .045	
-172	8-1/4	8-7/16	3/32	8.237 ± .050	.103 ± .003
-173	8-1/2	8-11/16	3/32	8.487 ± .050	.103 ± .003
-174	8-3/4	8-15/16	3/32	8.737 ± .050	.103 ± .003
-175	9	9-3/16		8.987 ± .050	.103 ± .003
-176	9-1/4				.103 ± .003
1 / /	9-1/2	9-11/16	3/32	9.487 ± .055	.103 ± .003
-177	0.011	0 1 = 110	0 100	0 =0= 0==	400 000
-177	9-3/4	9-15/16	3/32	9.737 ± .055	.103 ± .003
		·	3/32	9.737 ± .055	.103 ± .003
-178	3/16	·	1/8	9.737 ± .055 .171 ± .005	.103 ± .003
-178	SS SECT	ION	1/8		
-178 <b>1/8 - CRO</b> -201	3/16	7/16	1/8	.171 ± .005	.139 ± .004
-178 1/8 - CRO -201 -202	3/16 1/4	7/16 1/2	1/8	.171 ± .005 .234 ± .005	.139 ± .004 .139 ± .004
-178 1/8 - CRO -201 -202 -203	3/16 1/4 5/16	7/16 1/2 9/16	1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005	.139 ± .004 .139 ± .004 .139 ± .004
-178 1/8 - CRO -201 -202 -203 -204	3/16 1/4 5/16 3/8	7/16 1/2 9/16 5/8	1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005	.139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004
-178 1/8 - CRO -201 -202 -203 -204 -205	3/16 1/4 5/16 3/8 7/16	7/16 1/2 9/16 5/8 11/16	1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005	.139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004
-178 1/8 - CRO -201 -202 -203 -204 -205 -206	3/16 1/4 5/16 3/8 7/16 1/2	7/16 1/2 9/16 5/8 11/16 3/4	1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005	.139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207	3/16 1/4 5/16 3/8 7/16 1/2 9/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007	.139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .734 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .734 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CR0  -201  -202  -203  -204  -205  -206  -207  -208  -209  -210  -211  -212	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .734 ± .010 .796 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .796 ± .010 .859 ± .010 .921 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/18 1-3/16 1-1/4	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .984 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/18 1-3/16 1-1/4 1-5/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .984 ± .010 1.046 ± .010	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .921 ± .010 .984 ± .010 1.046 ± .010 1.109 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .984 ± .010 1.046 ± .010 1.109 ± .012 1.171 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/18 1-3/16 1-1/4	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .734 ± .010 .796 ± .010 .921 ± .010 .921 ± .010 .1.046 ± .010 1.1.09 ± .012 1.1.71 ± .012 1.234 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-1/2 1-1/2	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .984 ± .010 1.109 ± .012 1.171 ± .012 1.234 ± .012 1.296 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219 -220	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/16 1-1/4 1-5/16 1-3/8	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-9/16 1-5/8	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 1.046 ± .010 1.109 ± .012 1.171 ± .012 1.234 ± .012 1.296 ± .012 1.359 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CRO -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219 -220 -221	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/18 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-9/16 1-5/8 1-1/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .796 ± .010 .921 ± .010 .984 ± .010 1.046 ± .010 1.109 ± .012 1.171 ± .012 1.234 ± .012 1.296 ± .012 1.359 ± .012 1.421 ± .012	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219 -220 -221	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/2 1-5/16 1-3/8 1-7/16 1-1/2 1-9/16 1-5/8 1-1/116 1-1/2	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .000 .734 ± .010 .859 ± .010 .921 ± .010 .944 ± .010 1.104 ± .010 1.109 ± .012 1.171 ± .012 1.234 ± .012 1.296 ± .012 1.359 ± .012 1.421 ± .012 1.421 ± .015	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219 -220 -221 -222	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/4 1-1/8 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-5/8	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-9/16 1-5/8 1-1/16 1-1/2 1-9/16 1-5/8 1-1/17	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .941 ± .010 1.1046 ± .010 1.109 ± .012 1.234 ± .012 1.296 ± .012 1.421 ± .012 1.421 ± .012 1.424 ± .015 1.609 ± .015	.139 ± .004 .139 ± .004
-178  1/8 - CR0 -201 -202 -203 -204 -205 -206 -207 -208 -209 -210 -211 -212 -213 -214 -215 -216 -217 -218 -219 -220 -221 -222 -223 -224	3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/4 1-1/8 1-3/16 1-1/4 1-5/16 1-1/4 1-5/16 1-1/2 1-5/8 1-3/4	7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8 15/16 1-1/16 1-1/18 1-3/16 1-1/4 1-5/16 1-3/8 1-7/16 1-1/2 1-9/16 1-5/8 1-1/1/16 1-5/8 1-1/1/16 1-5/8 1-1/1/16 1-3/4 1-7/8 2	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	.171 ± .005 .234 ± .005 .296 ± .005 .359 ± .005 .421 ± .005 .484 ± .005 .546 ± .007 .609 ± .009 .671 ± .009 .734 ± .010 .859 ± .010 .921 ± .010 .941 ± .010 1.1046 ± .010 1.109 ± .012 1.171 ± .012 1.234 ± .012 1.296 ± .012 1.421 ± .012 1.484 ± .015 1.609 ± .015 1.734 ± .015	.139 ± .004 .139 ± .004

DASH	NOMINAL SIZE			ACTUAL SIZE		
NUMBER	ID	OD	C/S	ID	C/S	
1/8 - CRO	OSS SECTI	ON				
-228	2-1/4	2-1/2	1/8	2.234 ± .020	.139 ± .004	
-229	2-3/8	2-5/8	1/8	2.359 ± .020	.139 ± .004	
-230	2-1/2	2-3/4	1/8	2.484 ± .020	.139 ± .004	
-231	2-5/8	2-7/8	1/8			
-232	2-3/4	3	1/8			
-233	2-7/8	3-1/8	1/8	2.859 ± .024	.139 ± .004	
-234	3	3-1/4	1/8	2.984 ± .024		
-235	3-1/8		1/8	3.109 ± .024	.139 ± .004	
	,	3-3/8		3.109 ± .024 3.234 ± .024		
-236	3-1/4	3-1/2	1/8		.139 ± .004	
-237	3-3/8	3-5/8	1/8	3.359 ± .024	.139 ± .004	
-238	3-1/2	3-3/4	1/8	3.484 ± .024	.139 ± .004	
-239	3-5/8	3-7/8	1/8	3.609 ± .028	.139 ± .004	
-240	3-3/4	4	1/8	3.734 ± .028	.139 ± .004	
-241	3-7/8	4-1/8	1/8	3.859 ± .028	.139 ± .004	
-242	4	4-1/4	1/8			
-243	4-1/8	4-3/8	1/8			
-244	4-1/4	4-1/2	1/8		.139 ± .004	
-245	4-3/8	4-5/8	1/8	4.359 ± .030	.139 ± .004	
-246	4-1/2	4-3/4	1/8	4.484 ± .030	.139 ± .004	
-247	4-5/8	4-7/8	1/8	4.609 ± .030	.139 ± .004	
-248	4-3/4	5	1/8	4.734 ± .030	.139 ± .004	
-249	4-7/8	5-1/8	1/8	4.859 ± .035	.139 ± .004	
-250	5	5-1/4	1/8	4.984 ± .035	.139 ± .004	
-251	5-1/8	5-3/8	1/8	5.109 ± .035	.139 ± .004	
-252	5-1/4	5-1/2	1/8	5.234 ± .035	.139 ± .004	
-253	5-3/8	5-5/8	1/8	5.359 ± .035	.139 ± .004	
-254	5-1/2	5-3/4	1/8	5.484 ± .035	.139 ± .004	
-255	5-5/8	5-7/8	1/8			
-256	5-3/4	6	1/8			
-257	5-7/8	6-1/8	1/8	5.859 ± .035	.139 ± .004	
-258	6	6-1/4	1/8			
-259	6-1/4	6-1/2		6.234 ± .040	.139 ± .004	
-260			1/8	6.484 ± .040	.139 ± .004	
	6-1/2	6-3/4	1/8		.139 ± .004	
-261	6-3/4	7	1/8	6.734 ± .040		
-262	7	7-1/4	1/8	6.984 ± .040	.139 ± .004	
-263	7-1/4	7-1/2	1/8	7.234 ± .045	.139 ± .004	
-264	7-1/2	7-3/4	1/8	7.484 ± .045	.139 ± .004	
-265	7-3/4	8	1/8	7.734 ± .045	.139 ± .004	
-266	8	8-1/4	1/8	7.984 ± .045	.139 ± .004	
-267	8-1/4	8-1/2	1/8	8.234 ± .050	.139 ± .004	
-268	8-1/2	8-3/4	1/8	8.484 ± .050	.139 ± .004	
-269	8-3/4	9	1/8	8.734 ± .050	.139 ± .004	
-270	9	9-1/4	1/8	8.984 ± .050	.139 ± .004	
-271	9-1/4	9-1/2	1/8	9.234 ± .055	.139 ± .004	
-272	9-1/2	9-3/4	1/8	9.484 ± .055	.139 ± .004	
-273	9-3/4	10	1/8	9.734 ± .055	.139 ± .004	
-274	10	10-1/4	1/8	9.984 ± .055	.139 ± .004	
-275	10-1/2	10-3/4	1/8	10.484 ± .055	.139 ± .004	
-276	11	11-1/4	1/8	10.984 ± .065	.139 ± .004	
-277	11-1/2	11-3/4	1/8	11.484 ± .065	.139 ± .004	
-278	12	12-1/4	1/8	11.984 ± .065	.139 ± .004	
-279	13	13-1/4	1/8	12.984 ± .065	.139 ± .004	
-280	14	14-1/4	1/8	13.984 ± .065	.139 ± .004	
-200	14	14-1/4	1/0	10.004 ± .000	.100 ± .004	



DASH	NOMINAL SIZE		ACTUAL SIZE		
NUMBER	ID	OD	C/S	ID	C/S
1/8 - CRO	OSS SECT	ION			
-281	15	15-1/4	1/8	14.984 ± .065	.139 ± .004
-282	16	16-1/4	1/8	15.955 ± .075	.139 ± .004
-283	17	17-1/4	1/8	16.955 ± .080	.139 ± .004
-284	18	18-1/4	1/8	17.955 ± .085	.139 ± .004
3/16 - CF	nss sen	TION			
-309	7/16	13/16	3/16	.412 ± .005	.210 ± .005
-310	1/2	7/8	3/16	.475 ± .005	.210 ± .005
-311	9/16	15/16	3/16	.537 ± .007	.210 ± .005
-312	5/8	1	3/16	.600 ± .009	.210 ± .005
-313	11/16	1-1/16	3/16	.662 ± .009	.210 ± .005
-314	3/4	1-1/8	3/16	.725 ± .010	.210 ± .005
-315	13/16	1-3/16	3/16	.787 ± .010	.210 ± .005
-316	7/8	1-1/4	3/16	.850 ± .010	.210 ± .005
-317	15/16	1-5/16	3/16	.912 ± .010	.210 ± .005
-318	1	1-3/8	3/16	.975 ± .010	.210 ± .005
-319	1-1/16	1-7/16	3/16	1.037 ± .010	.210 ± .005
-320	1-1/8	1-1/2	3/16	1.100 ± .012	.210 ± .005
-321	1-3/16	1-9/16	3/16	1.162 ± .012	.210 ± .005
-322	1-1/4	1-5/8	3/16	1.225 ± .012	.210 ± .005
-323	1-5/16	1-11/16	3/16	1.287 ± .012	.210 ± .005
-324	1-3/8	1-3/4	3/16	1.350 ± .012	.210 ± .005
-325	1-1/2	1-7/8	3/16	1.475 ± .015	.210 ± .005
-326	1-5/8	2	3/16	1.600 ± .015	.210 ± .005
-327	1-3/4	2-1/8	3/16	1.725 ± .015	.210 ± .005
-328	1-7/8	2-1/4	3/16	1.850 ± .015	.210 ± .005
-329	2	2-3/8	3/16	1.975 ± .018	.210 ± .005
-330	2-1/8	2-1/2	3/16	2.100 ± .018	.210 ± .005
-331	2-1/4	2-5/8	3/16	2.225 ± .018	.210 ± .005
-332	2-3/8	2-3/4	3/16	2.350 ± .018	.210 ± .005
-333	2-1/2	2-7/8	3/16	2.475 ± .020	.210 ± .005
-334	2-5/8	3	3/16	2.600 ± .020	.210 ± .005
-335	2-3/4	3-1/8	3/16	2.725 ± .020	.210 ± .005
-336	2-7/8	3-1/4	3/16	2.850 ± .020	.210 ± .005
-337	3	3-3/8	3/16	2.975 ± .024	.210 ± .005
-338	3-1/8	3-1/2	3/16	3.100 ± .024	.210 ± .005
-339	3-1/4	3-5/8	3/16	3.225 ± .024	.210 ± .005
-340	3-3/8	3-3/4	3/16	3.350 ± .024	.210 ± .005
-341	3-1/2	3-7/8	3/16	3.475 ± .024	.210 ± .005
-342	3-5/8	4	3/16	3.600 ± .028	.210 ± .005
-343	3-3/4	4-1/8	3/16	3.725 ± .028	.210 ± .005
-344	3-7/8	4-1/4	3/16	3.850 ± .028	.210 ± .005
-345	4	4-3/8	3/16	3.975 ± .028	.210 ± .005
-346	4-1/8	4-1/2	3/16	4.100 ± .028	.210 ± .005
-347	4-1/4	4-5/8	3/16	4.225 ± .030	.210 ± .005
-348	4-3/8	4-3/4	3/16	4.350 ± .030	.210 ± .005
-349	4-1/2	4-7/8	3/16	4.475 ± .030	.210 ± .005
-350	4-5/8	5	3/16	4.600 ± .030	.210 ± .005
-351	4-3/4	5-1/8	3/16	4.725 ± .030	.210 ± .005
-352	4-7/8	5-1/4	3/16	4.850 ± .030	.210 ± .005
-353	5	5-3/8	3/16	4.975 ± .037	.210 ± .005
-354	5-1/8	5-1/2	3/16	5.100 ± .037	.210 ± .005

DASH	NOMINAL SIZE		ACTUAL SIZE		
NUMBER	ID	OD	C/S	ID	C/S
3/16 - CF	ROSS SEC	TION			
-355	5-1/4	5-5/8	3/16	5.225 ± .037	.210 ± .005
-356	5-3/8	5-3/4	3/16	5.350 ± .037	.210 ± .005
-357	5-1/2	5-7/8	3/16	5.475 ± .037	.210 ± .005
-358	5-5/8	6	3/16	5.600 ± .037	.210 ± .005
-359	5-3/4	6-1/8	3/16	5.725 ± .037	.210 ± .005
-360	5-7/8	6-1/4	3/16	5.850 ± .037	.210 ± .005
-361	6	6-3/8	3/16	5.975 ± .037	.210 ± .005
-362	6-1/4	6-5/8	3/16	6.225 ± .040	.210 ± .005
-363	6-1/2	6-7/8	3/16	6.475 ± .040	.210 ± .005
-364	6-3/4	7-1/8	3/16	6.725 ± .040	.210 ± .005
-365	7	7-3/8	3/16	6.975 ± .040	.210 ± .005
-366	7-1/4	7-5/8	3/16	7.225 ± .045	.210 ± .005
-367	7-1/2	7-7/8	3/16	7.475 ± .045	.210 ± .005
-368	7-3/4	8-1/8	3/16	7.725 ± .045	.210 ± .005
-369	8	8-3/8	3/16	7.975 ± .045	.210 ± .005
-370	8-1/4	8-5/8	3/16	8.225 ± .050	.210 ± .005
-371	8-1/2	8-7/8	3/16	8.475 ± .050	.210 ± .005
-372	8-3/4	9-1/8	3/16	8.725 ± .050	.210 ± .005
-373	9	9-3/8	3/16	8.975 ± .050	.210 ± .005
-374	9-1/4	9-5/8	3/16	9.225 ± .055	.210 ± .005
-375	9-1/2	9-7/8	3/16	9.475 ± .055	.210 ± .005
-376	9-3/4	10-1/8	3/16	9.725 ± .055	.210 ± .005
-377	10	10-3/8	3/16	9.975 ± .055	.210 ± .005
-378	10-1/2	10-7/8	3/16	10.475 ± .060	.210 ± .005
-379	11	11-3/8	3/16	10.975 ± .060	
-380	11-1/2	11-7/8	3/16	11.475 ± .065	.210 ± .005
-381	12	12-3/8	3/16	11.975 ± .065	.210 ± .005
-382	13	13-3/8	3/16	12.975 ± .065	.210 ± .005
-383	14	14-3/8	3/16	13.975 ± .070	.210 ± .005
-384	15	15-3/8	3/16	14.975 ± .070	.210 ± .005
-385	16	16-3/8	3/16	15.955 ± .075	.210 ± .005
-386	17	17-3/8			
-387	18	18-3/8			
-388	19	19-3/8			
-389	20	20-3/8		19.955 ± .095	.210 ± .005
-390	21	21-3/8	3/16	20.955 ± .095	.210 ± .005
-391	22	22-3/8	3/16	21.955 ± .100	.210 ± .005
-392	23	23-3/8	3/16	22.940 ± .105	.210 ± .005
-393	24	24-3/8	3/16	23.940 ± .110	.210 ± .005
-394	25	25-3/8	3/16	24.940 ± .115	.210 ± .005
-395	26	26-3/8	3/16	25.940 ± .120	.210 ± .005
	OSS SECT				
-400	1-3/8	1-7/8	1/4	1.350 ± .014	.275 ± .006
-401	1-1/2	2	1/4	1.475 ± .014	.275 ± .006
-402	1-5/8	2-1/8	1/4	1.600 ± .015	.275 ± .006
-403	1-3/4	2-1/4	1/4	1.725 ± .016	.275 ± .006
-404	1-7/8	2-3/8	1/4	1.850 ± .016	.275 ± .006
-405	2 1 / 9	2-1/2	1/4	1.975 ± .017	.275 ± .006
-406	2-1/8	2-5/8	1/4	2.100 ± .018	.275 ± .006
-407	2-1/4	2-3/4	1/4	2.225 ± .018	.275 ± .006
-408	2-3/8	2-7/8	1/4	2.350 ± .020	.275 ± .006



B. 6.11	NO	MINAL SIZ	F	ACTI	IAL SIZE
DASH Number	ID	OD	C/S	ID	C/S
1/4 - CRC			0,0		0,0
-409	2-1/2	3	1/4	2.475 ± .020	.275 ± .006
-410	2-5/8	3-1/8	1/4	2.600 ± .020	.275 ± .006
-411	2-3/4	3-1/4	1/4	2.725 ± .022	.275 ± .006
-412	2-7/8	3-3/8	1/4	2.850 ± .022	.275 ± .006
-413	3	3-1/2	1/4	2.975 ± .024	.275 ± .006
-414	3-1/8	3-5/8	1/4	3.100 ± .024	
-415	3-1/4	3-3/4		3.225 ± .024	.275 ± .006
-416	3-3/8		1/4		.275 ± .006
-417	3-1/2	4	1/4	3.475 ± .026	.275 ± .006
-418	3-5/8	4-1/8	1/4	3.600 ± .026	.275 ± .006
-419	3-3/4	4-1/4	1/4	3.725 ± .028	.275 ± .006
-420	3-7/8	3-3/8	1/4	3.850 ± .028	.275 ± .006
-421	4	4-1/2	1/4	3.975 ± .028	.275 ± .006
-422	4-1/8	4-5/8	1/4	4.100 ± .030	.275 ± .006
-423	4-1/4	4-3/4	1/4	4.225 ± .030	.275 ± .006
-424	4-3/8	4-7/8	1/4	4.350 ± .030	.275 ± .006
-425	4-1/2	5	1/4	4.475 ± .033	.275 ± .006
-426	4-5/8	5-1/8	1/4	4.600 ± .033	.275 ± .006
-427	4-3/4	5-1/4	1/4	4.725 ± .033	.275 ± .006
-428	4-7/8	5-3/8	1/4	4.850 ± .033	.275 ± .006
-429	5	5-1/2	1/4	4.975 ± .037	.275 ± .006
-430	5-1/8	5-5/8	1/4	5.100 ± .037	.275 ± .006
-431	5-1/4	5-3/4	1/4	5.225 ± .037	.275 ± .006
-432	5-3/8	5-7/8	1/4	$5.350 \pm .037$	.275 ± .006
-433	5-1/2	6	1/4	5.475 ± .037	.275 ± .006
-434	5-5/8	6-1/8	1/4	5.600 ± .037	.275 ± .006
-435	5-3/4	6-1/4	1/4	5.725 ± .037	.275 ± .006
-436	5-7/8	6-3/8	1/4	5.850 ± .037	.275 ± .006
-437	6	6-1/2	1/4	5.975 ± .037	.275 ± .006
-438	6-1/4	6-3/4	1/4	6.225 ± .040	.275 ± .006
-439	6-1/2	7	1/4		
-440	6-3/4	7-1/4	1/4		
-441	7	7-1/2	1/4		
-442	7-1/4	7-3/4	1/4		
-443	7-1/2	8	1/4	7.475 ± .045	.275 ± .006
-444	7-3/4	8-1/4	1/4	7.725 ± .045	.275 ± .006
-445	8	8-1/2	1/4	7.975 ± .045	.275 ± .006
-446	8-1/2	9	1/4	8.475 ± .055	.275 ± .006
-447	9	9-1/2	1/4	8.975 ± .055	.275 ± .006
-448	9-1/2	10	1/4	9.475 ± .055	.275 ± .006
-449	10	10-1/2	1/4	9.975 ± .055	.275 ± .006
-450	10-1/2	11	1/4	10.475 ± .060	.275 ± .006
-451	11	11-1/2	1/4	10.975 ± .060	.275 ± .006
-452	11-1/2	12	1/4	11.475 ± .060	.275 ± .006
-453	12	12-1/2	1/4	11.975 ± .060	.275 ± .006
-454 455	12-1/2	13	1/4	12.475 ± .060	.275 ± .006
-455 -456	13 13-1/2	13-1/2 14	1/4	12.975 ± .060	.275 ± .006
-456 -457	13-1/2	14-1/2	1/4	13.475 ± .070	.275 ± .006
-45 <i>1</i> -458	14-1/2	14-1/2	1/4	13.975 ± .070 14.475 ± .070	.275 ± .006
-456 -459	15	15-1/2	1/4	14.475 ± .070	.275 ± .006
-460	15-1/2	16	1/4	15.475 ± .070	.275 ± .006
-400	10-1/2	10	1/4	10.410 I .010	.213 ± .000

DASH	NOMINAL SIZE		ACTU	IAL SIZE	
NUMBER	ID	OD	C/S	ID	C/S
1/4 - CR0	OSS SECT	ION			
-461	16	16-1/2	1/4	15.955 ± .075	.275 ± .006
-462	16-1/2	17	1/4	16.455 ± .075	.275 ± .006
-463	17	17-1/2	1/4	16.955 ± .080	.275 ± .006
-464	17-1/2	18	1/4	17.455 ± .085	.275 ± .006
-465	18	18-1/2	1/4	17.955 ± .085	.275 ± .006
-466	18-1/2	19	1/4	18.455 ± .085	.275 ± .006
-467	19	19-1/2	1/4	18.955 ± .090	.275 ± .006
-468	19-1/2	20	1/4	19.455 ± .090	.275 ± .006
-469	20	20-1/2	1/4	19.955 ± .095	.275 ± .006
-470	21	21-1/2	1/4	20.955 ± .095	.275 ± .006
-471	22	22-1/2	1/4	21.955 ± .100	.275 ± .006
-472	23	23-1/2	1/4	22.940 ± .105	.275 ± .006
-473	24	24-1/2	1/4	23.940 ± .110	.275 ± .006
-474	25	25-1/2	1/4	24.940 ± .115	.275 ± .006
-475	26	26-1/2	1/4	25.940 ± .120	.275 ± .006

BOSS 0-	RINGS			
-901		3/32	.185 ± .005	0.056 ± .003
-902		1/8	.239 ± .005	0.064 ± .003
-903		3/16	.301 ± .005	0.064 ± .003
-904		1/4	.351 ± .005	0.072 ± .003
-905		5/16	.414 ± .005	0.072 ± .003
-906		3/8	.468 ± .005	0.078 ± .003
-907		7/16	.530 ± .007	0.082 ± .003
-908	0	1/2	.644 ± .009	0.087 ± .003
-909	0	9/16	.706 ± .009	0.097 ± .003
-910		5/8	.755 ± .009	0.097 ± .003
-911	8	11/16	.863 ± .009	0.116 ± .004
-912	1	3/4	.924 ± .009	0.116 ± .004
-913		13/16	.986 ± .010	0.116 ± .004
-914	•	7/8	1.047 ± .010	0.116 ± .004
-916		1	1.171 ± .010	0.116 ± .004
-918		1-1/8	1.355 ± .012	0.116 ± .004
-920		1-1/4	1.475 ± .014	0.118 ± .004
-924		1-1/2	1.720 ± .014	0.118 ± .004
-928		1-3/4	2.090 ± .018	0.118 ± .004
-932		2	2.337 ± .018	0.118 ± .004