

NBR (Nitrile) AS568 O-Rings (Inch Series)

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[Fasteners/Seals/AS568 O-Rings \(Inch Series\)](#)/NBR (Nitrile) AS568 O-Rings (Inch Series)

Seals · AS 568

Temperature range, chemical and fluid compatibility, hardness and the full dimensional range for this compound.

NBR (Nitrile) AS568 O-Rings (Inch Series) are supplied to acrylonitrile-butadiene rubber, typically 70 Shore A. Corrosion behaviour is good resistance to mineral oil, grease and hydraulic fluid; poor in ozone and weathering, the material is non-magnetic, and the usable service range is approx. -30 °C to +100 °C. In practice this grade is the default elastomer for oil and hydraulic sealing.

Grade

acrylonitrile-butadiene rubber, typically 70 Shore A

Corrosion resistance

Good resistance to mineral oil, grease and hydraulic fluid; poor in ozone and weathering

Magnetic response

Non-magnetic

Service temperature

approx. -30 °C to +100 °C

Property values are typical for the grade. Certified mechanical test data is available on request for production orders.



For as568 o-rings (inch series) in NBR (Nitrile), the controlling selection factors are corrosion exposure, strength requirement and service temperature. The grade data for NBR (Nitrile) (acrylonitrile-butadiene rubber, typically 70 Shore A) is summarized below together with every size supplied.

Why Choose NBR (Nitrile) for AS568 O-Rings (Inch Series)

The default elastomer for oil and hydraulic sealing. For as568 o-rings (inch series), this matters when good resistance to mineral oil, grease and hydraulic fluid; poor in ozone and weathering is the primary requirement.

Mechanical & Physical Properties

Grade designation	acrylonitrile-butadiene rubber, typically 70 Shore A
Magnetic response	Non-magnetic
Service temperature	approx. -30 °C to +100 °C
Corrosion characteristic	Good resistance to mineral oil, grease and hydraulic fluid; poor in ozone and weathering

Corrosion Behavior in Service

Carbon and alloy steel as568 o-rings (inch series) require a coating for corrosion protection. Zinc plating (with or without passivation) is the most common; hot-dip galvanizing is used for outdoor structural service; black-oxide is mainly a tarnish-prevention finish for tool-room use.

Galvanic & Galling Considerations

Galvanic and galling behavior do not apply to as568 o-rings (inch series) in NBR (Nitrile) — the relevant compatibility questions are chemical: confirm the elastomer against the fluid, the temperature and any cleaning agents in service, and check the gland or groove dimensions give the intended compression on the section.

Sizes of AS568 O-Rings (Inch Series) Available in NBR (Nitrile)

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-001	0.029	0.74	0.040	1.02	1.42	AS 568
AS568-002	0.042	1.07	0.040	1.02	1.42	AS 568
AS568-003	0.056	1.42	0.040	1.02	1.42	AS 568
AS568-004	0.070	1.78	0.040	1.02	1.42	AS 568
AS568-005	0.101	2.57	0.040	1.02	1.42	AS 568
AS568-006	0.114	2.90	0.070	1.78	2.49	AS 568
AS568-007	0.145	3.68	0.070	1.78	2.49	AS 568
AS568-008	0.176	4.47	0.070	1.78	2.49	AS 568
AS568-009	0.208	5.28	0.070	1.78	2.49	AS 568
AS568-010	0.239	6.07	0.070	1.78	2.49	AS 568
AS568-011	0.301	7.65	0.070	1.78	2.49	AS 568
AS568-012	0.364	9.25	0.070	1.78	2.49	AS 568
AS568-013	0.426	10.82	0.070	1.78	2.49	AS 568
AS568-014	0.489	12.42	0.070	1.78	2.49	AS 568
AS568-015	0.551	14.00	0.070	1.78	2.49	AS 568
AS568-016	0.614	15.60	0.070	1.78	2.49	AS 568
AS568-017	0.676	17.17	0.070	1.78	2.49	AS 568
AS568-018	0.739	18.77	0.070	1.78	2.49	AS 568
AS568-019	0.801	20.35	0.070	1.78	2.49	AS 568
AS568-020	0.864	21.95	0.070	1.78	2.49	AS 568
AS568-021	0.926	23.52	0.070	1.78	2.49	AS 568
AS568-022	0.989	25.12	0.070	1.78	2.49	AS 568
AS568-023	1.051	26.70	0.070	1.78	2.49	AS 568
AS568-024	1.114	28.30	0.070	1.78	2.49	AS 568

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-025	1.176	29.87	0.070	1.78	2.49	AS 568
AS568-026	1.239	31.47	0.070	1.78	2.49	AS 568
AS568-027	1.301	33.05	0.070	1.78	2.49	AS 568
AS568-028	1.364	34.65	0.070	1.78	2.49	AS 568
AS568-029	1.489	37.82	0.070	1.78	2.49	AS 568
AS568-030	1.614	41.00	0.070	1.78	2.49	AS 568

Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.

Sends the selected values to the quote form below.

Request a Quote

The form below follows the current technical drawing configuration. Change the drawing values above and the request details update automatically.

Dimensions & Specifications (AS 568)

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-001	0.029	0.74	0.040	1.02	1.42	AS 568
AS568-002	0.042	1.07	0.040	1.02	1.42	AS 568
AS568-003	0.056	1.42	0.040	1.02	1.42	AS 568
AS568-004	0.070	1.78	0.040	1.02	1.42	AS 568
AS568-005	0.101	2.57	0.040	1.02	1.42	AS 568
AS568-006	0.114	2.90	0.070	1.78	2.49	AS 568
AS568-007	0.145	3.68	0.070	1.78	2.49	AS 568
AS568-008	0.176	4.47	0.070	1.78	2.49	AS 568
AS568-009	0.208	5.28	0.070	1.78	2.49	AS 568
AS568-010	0.239	6.07	0.070	1.78	2.49	AS 568
AS568-011	0.301	7.65	0.070	1.78	2.49	AS 568
AS568-012	0.364	9.25	0.070	1.78	2.49	AS 568
AS568-013	0.426	10.82	0.070	1.78	2.49	AS 568
AS568-014	0.489	12.42	0.070	1.78	2.49	AS 568
AS568-015	0.551	14.00	0.070	1.78	2.49	AS 568
AS568-016	0.614	15.60	0.070	1.78	2.49	AS 568
AS568-017	0.676	17.17	0.070	1.78	2.49	AS 568
AS568-018	0.739	18.77	0.070	1.78	2.49	AS 568
AS568-019	0.801	20.35	0.070	1.78	2.49	AS 568
AS568-020	0.864	21.95	0.070	1.78	2.49	AS 568
AS568-021	0.926	23.52	0.070	1.78	2.49	AS 568
AS568-022	0.989	25.12	0.070	1.78	2.49	AS 568
AS568-023	1.051	26.70	0.070	1.78	2.49	AS 568
AS568-024	1.114	28.30	0.070	1.78	2.49	AS 568

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-025	1.176	29.87	0.070	1.78	2.49	AS 568
AS568-026	1.239	31.47	0.070	1.78	2.49	AS 568
AS568-027	1.301	33.05	0.070	1.78	2.49	AS 568
AS568-028	1.364	34.65	0.070	1.78	2.49	AS 568
AS568-029	1.489	37.82	0.070	1.78	2.49	AS 568
AS568-030	1.614	41.00	0.070	1.78	2.49	AS 568
AS568-031	1.739	44.17	0.070	1.78	2.49	AS 568
AS568-032	1.864	47.35	0.070	1.78	2.49	AS 568
AS568-033	1.989	50.52	0.070	1.78	2.49	AS 568
AS568-034	2.114	53.70	0.070	1.78	2.49	AS 568
AS568-035	2.239	56.87	0.070	1.78	2.49	AS 568
AS568-036	2.364	60.05	0.070	1.78	2.49	AS 568
AS568-037	2.489	63.22	0.070	1.78	2.49	AS 568
AS568-038	2.614	66.40	0.070	1.78	2.49	AS 568
AS568-039	2.739	69.57	0.070	1.78	2.49	AS 568
AS568-040	2.864	72.75	0.070	1.78	2.49	AS 568
AS568-041	2.989	75.92	0.070	1.78	2.49	AS 568
AS568-042	3.239	82.27	0.070	1.78	2.49	AS 568
AS568-043	3.489	88.62	0.070	1.78	2.49	AS 568
AS568-044	3.739	94.97	0.070	1.78	2.49	AS 568
AS568-045	3.989	101.32	0.070	1.78	2.49	AS 568
AS568-046	4.239	107.67	0.070	1.78	2.49	AS 568
AS568-047	4.489	114.02	0.070	1.78	2.49	AS 568
AS568-048	4.739	120.37	0.070	1.78	2.49	AS 568
AS568-049	4.989	126.72	0.070	1.78	2.49	AS 568
AS568-050	5.239	133.07	0.070	1.78	2.49	AS 568

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-102	0.049	1.24	0.103	2.62	3.66	AS 568
AS568-103	0.081	2.06	0.103	2.62	3.66	AS 568
AS568-104	0.112	2.84	0.103	2.62	3.66	AS 568
AS568-105	0.143	3.63	0.103	2.62	3.66	AS 568
AS568-106	0.174	4.42	0.103	2.62	3.66	AS 568
AS568-107	0.206	5.23	0.103	2.62	3.66	AS 568
AS568-108	0.237	6.02	0.103	2.62	3.66	AS 568
AS568-109	0.299	7.59	0.103	2.62	3.66	AS 568
AS568-110	0.362	9.19	0.103	2.62	3.66	AS 568
AS568-111	0.424	10.77	0.103	2.62	3.66	AS 568
AS568-112	0.487	12.37	0.103	2.62	3.66	AS 568
AS568-113	0.549	13.94	0.103	2.62	3.66	AS 568
AS568-114	0.612	15.54	0.103	2.62	3.66	AS 568
AS568-115	0.674	17.12	0.103	2.62	3.66	AS 568
AS568-116	0.737	18.72	0.103	2.62	3.66	AS 568
AS568-117	0.799	20.29	0.103	2.62	3.66	AS 568
AS568-118	0.862	21.89	0.103	2.62	3.66	AS 568
AS568-119	0.924	23.47	0.103	2.62	3.66	AS 568
AS568-120	0.987	25.07	0.103	2.62	3.66	AS 568
AS568-121	1.049	26.64	0.103	2.62	3.66	AS 568
AS568-122	1.112	28.24	0.103	2.62	3.66	AS 568
AS568-123	1.174	29.82	0.103	2.62	3.66	AS 568
AS568-124	1.237	31.42	0.103	2.62	3.66	AS 568
AS568-125	1.299	32.99	0.103	2.62	3.66	AS 568
AS568-126	1.362	34.59	0.103	2.62	3.66	AS 568
AS568-127	1.424	36.17	0.103	2.62	3.66	AS 568

Dash number	Inner diameter d1 (in)	Inner diameter d1 (mm)	Cross section CS (in)	Cross section CS (mm)	Groove width (mm)	Reference standard
AS568-128	1.487	37.77	0.103	2.62	3.66	AS 568
AS568-129	1.549	39.34	0.103	2.62	3.66	AS 568
AS568-130	1.612	40.94	0.103	2.62	3.66	AS 568
AS568-131	1.674	42.52	0.103	2.62	3.66	AS 568
AS568-132	1.737	44.12	0.103	2.62	3.66	AS 568
AS568-133	1.799	45.69	0.103	2.62	3.66	AS 568
AS568-134	1.862	47.29	0.103	2.62	3.66	AS 568
AS568-135	1.924	48.87	0.103	2.62	3.66	AS 568
AS568-136	1.987	50.47	0.103	2.62	3.66	AS 568
AS568-137	2.049	52.04	0.103	2.62	3.66	AS 568
AS568-138	2.112	53.64	0.103	2.62	3.66	AS 568
AS568-139	2.174	55.22	0.103	2.62	3.66	AS 568
AS568-140	2.237	56.82	0.103	2.62	3.66	AS 568

Video: NBR (Nitrile) AS568 O-Rings (Inch Series)



► Watch video: https://www.youtube.com/watch?v=F-pw_ObgpCs

[How to Measure an O Ring \(with only basic tools\)](#)

Third-party video, selected automatically for this topic. It is not produced by Engineering Hardware and is not a specification source — use the tables on this page for dimensional data.

Inside the plant

Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.

1.



01

Cold heading

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



2.

02

Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.

3.



03

Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.

4.



04

Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

Frequently Asked Questions

What corrosion resistance do NBR (Nitrile) AS568 O-Rings (Inch Series) offer?

NBR (Nitrile) AS568 O-Rings (Inch Series) provide good resistance to mineral oil, grease and hydraulic fluid; poor in ozone and weathering with a service range of approx. -30 °C to +100 °C.

When should I move from acrylonitrile-butadiene rubber, typically 70 Shore A to class 8.8 for AS568 O-Rings (Inch Series)?

Step up to class 8.8 when the joint preload approaches the proof load of the current class. The higher class adds preload at the same diameter, often saving size and weight.

Is NBR (Nitrile) prone to hydrogen embrittlement?

Class 10.9 and above can be susceptible to hydrogen embrittlement when electroplated. Specify post-plating baking, or use mechanical-zinc / zinc-flake finishes which avoid the cathodic plating step.

Which finish is best for outdoor AS568 O-Rings (Inch Series)?

For outdoor service in steel, hot-dip galvanizing gives the longest life; zinc-flake (Geomet/Delta-Tone family) gives a thinner film with excellent salt-spray performance; standard zinc plating is the lowest-cost option for general indoor / shielded outdoor use.

How do I request a quotation?

Use the technical drawing on this page to pick the exact configuration, then submit it with the quote form. We respond within one business day.

Related Pages

[View the full AS568 O-Rings \(Inch Series\) page](#)

More AS568 O-Rings (Inch Series) Guides

- [FKM \(Viton®-type\) AS568 O-Rings \(Inch Series\)](#)
- [EPDM AS568 O-Rings \(Inch Series\)](#)
- [Silicone \(VMQ\) AS568 O-Rings \(Inch Series\)](#)
- [PTFE AS568 O-Rings \(Inch Series\)](#)