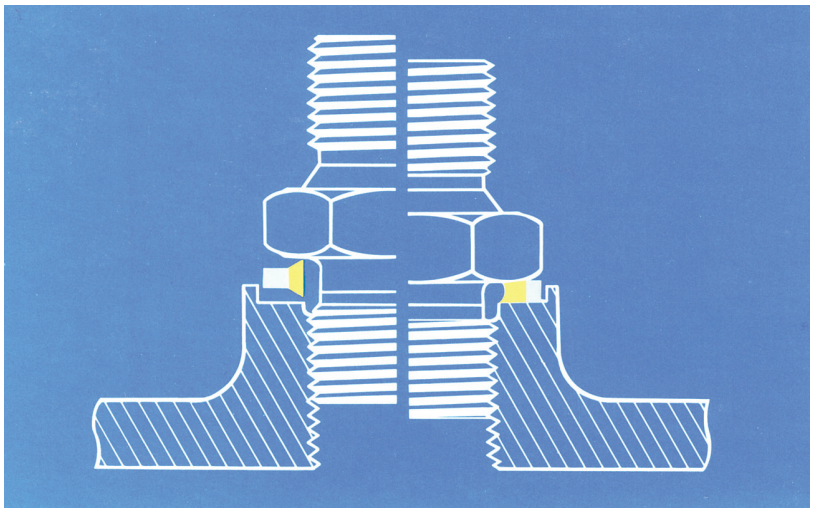
Contents

Bonded Seals

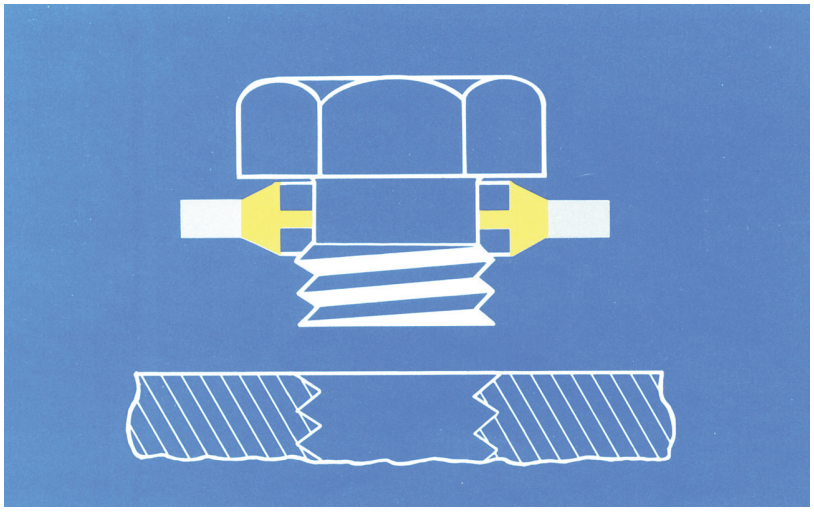


The bonded seal was originally designed to replace copper type washers in higher pressure systems. Simple in construction the gasket comprises a metal annulus, square or rectangular in section, to which an elastomeric ring of trapezoidal section is bonded. The metal ring resists the bursting forces and limits the deformation of the elastomeric element.

The Key Benefits

- RELIABLE HIGH AND LOW PRESSURE SEALING
- WIDE TEMPERATURE CAPAPILITY
- METAL RING PREVENTS OVER-COMPRESSION AND EXTRUSION
- LARGE RANGE OF ELASTOMETRES AND METALS
- FULL TRACEABILITY, THROUGH PACKAGING FOR ALL ITEMS
- ALL EUROPEAN THREAD SIZES AVAILABLE

Self-Centring Bonded Seals

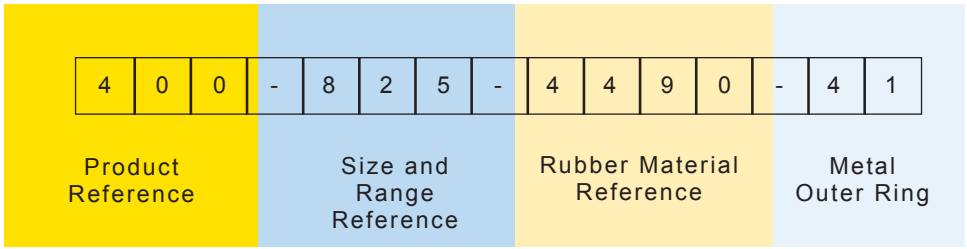


Developed to eliminate the occurrance of leakage due to seal offset, the centring type of bonded seal has the additional benefit of pre-assembling on to threads with the consequent production line savings. The thin seal membrane offers little resistance during assembly.

The Key Benefits

- ALL KEY BENIFITS FROM THE ORIGINAL BONDED SEAL
- CONTENTRICALLY LOCATED
- POSITIVELY RETAINED
- EASE OF ASSEMBLY
- ABILITY TO PRE-ASSEMBLE
- OPTIMISED COMPONENT STOCKING
- SIMPLIFIED LOCATION MACHINING

Part No.



Product Reference

Bonded Seals - Aerospace 300
Bonded Seals - Industrial 400

Product Reference

Select the required type and size of product and insert the appropriate size reference.
e.g. 825=1/2" BSP self-centring bonded seal

Rubber Material Reference

Select the compound most suitable to the application requirements.
e.g. 4490=non released 90 IRHD medium nitrile.

Metal Outer Ring

As with the elastomeric material, preferred metal types should be used if possible.

The most commonly used non-released materials are the 4490 nitrile and the 9775 fluorocarbon. Combined with the 41 zinc plated mild steel metal outer ring these are the most widely stocked ranges.

	APPLICATIONS												
Compound Reference	MINERAL BASED HYDRAULIC FLUIDS	NATIONAL WATER COUNCIL APPROVED	FOOD & DRUG AUTHORITY APPROVED	PETROL	MINERAL BASED ENGINE LUBRICATING OILS	HIGH TEMPERATURE APPLICATIONS	OZONE RESISTANCE	HIGH TEMP STEAM ACIDS & ALKALIS	HOT AIR	POLYGLYCOL BASED FLUIDS	Polymer Base	Material Specification	Temperature Range °C Hardness IRHD
5575	●			●	●						HIGH NITRILE	ASTM D2000 M2 BG710, B14, EF11, EF21 EO14, EO34, Z1 Z2 Z3	−30 to +110 70–80
5590	●			●	●							ASTM D2000 M7 BG910, B14, EA14 EF11, EF21, EO14, F16 Z1	−30 to +110 85–95
0117	●		●	●	●								−30 to +110 65–75
4470	●				●						MEDIUM NITRILE	ASTM D2000 M2 BG S10, B14, EA14, EF11 EF21, EO14, EO34 F17 Z	−40 to +110 65–75
4490	●				●							ASTM D2000 M7 BG910, B14, EA14 EF11, EF21, EO14 EO34, F16, Z1 Z2	−30 to +110 85–95
2455		●	●									ASTM D2000 2MBG, 714, B14 EA14, EF11, EF21 EO14, EO34, F17, Z1, Z2	−40 to +110 65–75
1631	●			●	●	●	●		●		FLUORO-CARBON		−10 to +200 80–90
9707	●			●	●	●	●		●			ASTM D2000 M6HK 710A1-10B38, EF31 EO88, Z1, Z2	−15 to +200 65–75
9775	●			●	●	●	●		●			ASTM D2000 M6 HK, 81081-10B38 EF31, EO88, Z1, Z2	−15 to +200 71–80
8825	●			●	●		●		●	●	FLUORO-SILICONE		−60 to +200 55–65
8870						●	●		●		SILICONE		−70 to +200 65–75
2064						●	●	●	●	●	ETHYLENE PROPYLENE	ASTM D2000 M3 DA710, A26, B36 C32, EA14	−50 to +120 70–80
2484						●	●	●	●		AFLAS		−5 to +200 76–84

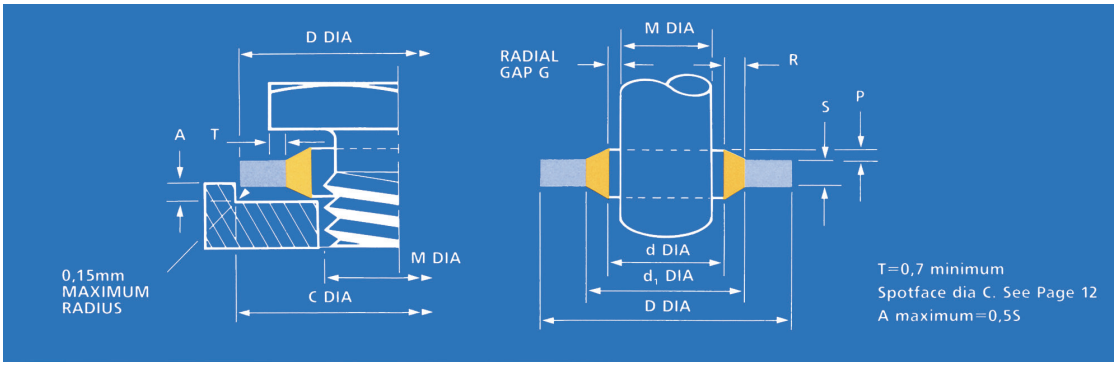
PREFERRED COMPOUNDS

Most Commonly Used Released Metals

Most Commonly Used Industrial Metals

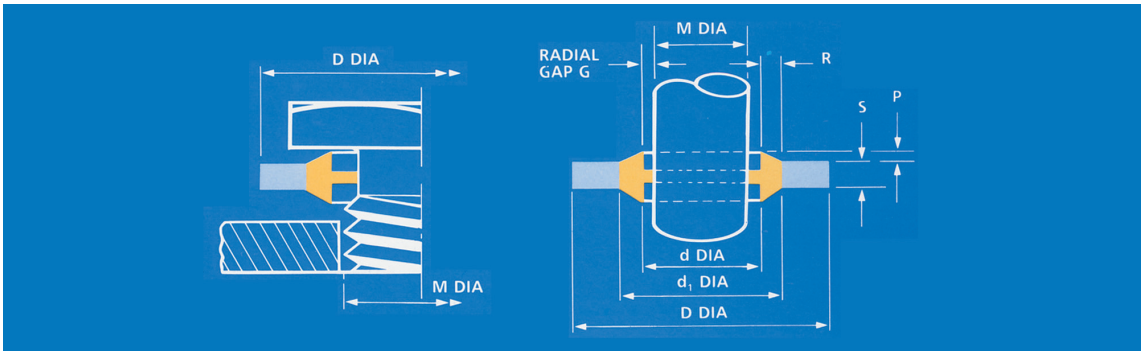
Compound Reference	Metal Type	Material Specification	Plating Special Conditions
02	MILD STEEL CADMIUM PLATED	BS1449 PART 1 1983 CS4 BRH5	CADMIUM PLATED TO DTD904C OR DEF STAN 03-19 COLOUR PASSIVATED TO DEF130
12	MILD STEEL CADMIUM PLATED	BS1449 PART 1 1983 CS4 BRH5	CADMIUM PLATED TO DTD904C OR DEF 03-19 WITH IDENTIFICATION MARKS TO GD1967 COLOUR PASSIVATED TO DEF130
13	MILD STEEL CADMIUM PLATED	BS1449 PART 1 1983 CS4 BRH5	CADMIUM PLATED TO DTD904C, OR DEF STAN 03-19 WITH IDENTIFICATION MARKS TO GD1483
41	MILD STEEL ZINC PLATED	BS1449 PART 1 1983 CS4 BRH5	ZINC PLATED TO DEF STAN 03-20/1 COLOUR PASSIVATED TO DEF130
08	STAINLESS STEEL TYPE 410	BS1449 PART 2 410 S21	
31	STAINLESS STEEL AEROSPACE RELEASED MATERIAL	BS S130	LOW MAGNETISM (AUSTENITIC)
74	STAINLESS STEEL TYPE 316	BS1449 PART 2 316 S33	
26	HIGH STRENGTH STEEL	BS970 PART 1983 817M40U	
73	HIGH STRENGTH STEEL CADMIUM PLATED	BS970 PART 1 1983 817M40U	CADMIUM PLATED TO DTD904C OR DEF STAN 03-19 COLOUR PASSIVATED TO DEF130
19	LIGHT ALLOY	L102 1971 (1985)	
05	LIGHT ALLOY ANODISED	L102 1971 (1985)	ANODISED TO DEF STAN 03-24 ISSUE 2
16	LIGHT ALLOY ANODISED RED SEE NOTE BELOW	L102 1971 (1985)	ANODISED TO DEF STAN 03-24 ISSUE 2 (RED)
18	LIGHT ALLOY ANODISED GREEN SEE NOTE BELOW	L102 1971 (1985)	ANODISED TO DEF STAN 03-24 ISSUE 2 (GREEN)
10	BRASS	BS2870 1980 CZ106	
09	BRASS CADMIUM PLATED	BS2870 1980 CZ106	CADMIUM PLATED TO DTD904C OR DEF STAN 03-19 COLOUR PASSIVATED TO DEF130
28	ALUMINIUM BRONZE	BS2874 1986 CA104	

Note: For identification purposes light alloy 16 (red) is used with 5615 elostometer; light allow 18 (green) is used with 0073 elastometer.



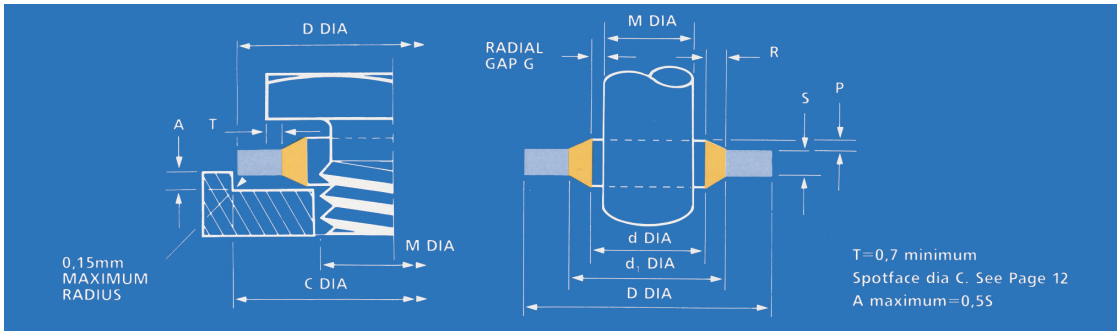
BONDED SEAL												
THREAD DIA M		SIZE REFERENCE		D +0,13 −0,00	d ±0,13	d_1 ±0,13	S		R ±0,13	P	RADIAL GAP G+0,07	
INCH	BSP	***	†								INCH	BSP
6BA		001	1	6,35	3,05	4,09/4,16			0,54		0,13	
4BA		002	2	7,26	4,12	5,26			0,57		0,26	
2BA		003	3	8,38	5,21	6,35			0,57		0,26	
1/4		004	4	13,21	6,86	8	1,22	+0,15	0,57	0,2/0,38	0,26	
1/4		005	5	13,34	6,99	9,53		−0,00	1,27		0,32	
5/16		006	6	13,34	8,31	9,53			0,56		0,19	
5/16		007	7	14,22	8,64	10,04			0,70		0,35	
3/8	1/8	020	A	15,88	10,37	11,84			0,73		0,42	0,32
·40		008	8	18,36	11,26	12,45			0,60		0,55	
7/16		009	9	19,05	11,69	13,08			0,70		0,29	
1/2	1/4	021	B	20,57	13,74	15,21	2,00	±0,1	0,73		0,52	0,29
9/16		010	10	22,23	14,86	16,39			0,76		0,29	
·60		022	BB	22,23	15,83	17,30			0,73		0,30	
5/8		011	11	25,40	16,51	18,75			1,12		0,32	
	3/8	023	C	23,80	17,28	18,75			0,73			0,31
11/16		012	12	25,40	18,16	19,69			0,76		0,35	
3/4		024	CC	26,92	19,69	21,21			0,76		0,32	
13/16	1/2	025	D	28,58	21,54	23,01			0,73		0,45	0,29
7/8	5/8	026	E	31,75	23,49	24,97			0,74		0,63	0,29
15/16		013	13	33,27	24,26	26,04	2,34		0,89		0,23	
1	3/4	027	F	34,93	27,05	28,53			0,74		0,82	0,30
1 1/16		028	FF	38,61	27,82	30,61			1,40		0,41	
1 1/8		014	14	36,58	29,33	30,86			0,76	0,25/0,51	0,38	
1 3/16	7/8	029	G	38,10	30,81	32,39			0,74		0,33	0,30
1 1/4		015	15	41,40	32,64	35,69	3,25		1,52		0,45	
1 5/16	1	030	H	42,80	33,89	36,88	3,25		1,50		0,28	0,40
1 5/16	1	031	HH	42,80	33,89	36,88	2,34	+0,26	1,50		0,28	0,40
1 3/8		016	16	44,45	35,94	38,99		−0,00	1,52		0,51	
1 1/2		017	17	47,75	38,96	42,04			1,54		0,43	
1 5/8	1 1/4	032	J	52,38	42,93	45,93			1,50		0,82	0,51
1 3/4		018	18	57,15	45,34	48,39			1,52		0,45	
1 7/8	1 1/2	033	K	58,60	48,44	51,39			1,47		0,40	0,32
2		019	19	63,50	51,69	54,74	3,25		1,52		0,45	
2 1/8	1 3/4	034	L	69,85	54,89	58,30			1,70		0,45	0,57
2 1/4		035	LL	70,36	58,04	61,09			1,52		0,45	
	2	036	M	73,03	60,58	63,63			1,52			0,48
2 1/2		037	MM	77,72	64,39	67,44			1,52		0,45	
	2 1/4	038	N	79,50	66,68	69,98			1,65			0,59
	2 1/2	039	P	90,17	76,08	79,38			1,65			0,45

Note: *** size reference fourth, fifth, sith digits. Previous mark numbers for PP45 (industrial) and AGS1186 are shown by symbol t >
Burst pressures were calculated using 540MN/m2 (35 ton f/in2) UTS Steel.



BSP THREAD SIZE DIAMETER M	SIZE REFERENCE	D	d ±0,13	d_1	S	P	CENTRALISING LIP		R ±0,13
1/8	820	15,88	10,37	11,84			8,26		0,73
1/4	821	20,57	13,74	15,21	2,00 ±0,1		11,18		0,73
3/8	823	23,80	17,28	18,75			14,67		0,73
1/2	825	28,58	21,54	23,01			18,24	+0,25 −0,00	0,73
5/8	826	31,75	23,49	24,97			20,27		0,74
3/4	827	34,93	27,05	28,53	2,34 +0,26 −0,00		23,83		0,74
7/8	829	38,10	30,81	32,29			27,51		0,74
1	830	42,80	33,89	36,88		0,25/0,51	29,92		1,50
1 1/4	832	52,38	42,93	45,93			38,45		1,50
1 1/2	833	58,60	48,44	51,39			44,45		1,47
1 3/4	834	69,85	54,89	58,30	3,25 +0,26 −0,00		50,42	+0,37 −0,00	1,70
2	836	73,03	60,58	63,63			56,26		1,52
2 1/4	838	79,50	66,68	69,98			62,36		1,65
2 1/2	839	90,17	76,08	79,38			71,50		1,65

Burst pressures were calculated using 540MN/m2 (35 ton f/in2) UTS steel.



THREAD SIZE DIA M	SIZE REFERENCE	D +0,13 −0,00	d ±0,10	d_1 ±0,10	S	R ±0,1	P +0,25 −0,00	RADIAL GAP G ±0,05
3,5	201	7,2	4,1	5,2		0,55		0,30
4	202	7,0	4,5	5,4		0,45		0,25
5	203	9,0	5,7	6,8		0,65		0,35
5	204	10,0	5,7	7,4	1,0±0,1	0,85		0,35
5,5	205	9,2	6,2	7,2		0,5		0,35
6	206	10,0	6,7	8,0		0,65		0,35
6	207	11,0	6,7	8,2		0,75		0,35
6	208	11,0	6,7	8,2	2,5±0,1	0,75	0,30	0,35
6,5	209	12,0	7,1	8,8		0,85		0,30
6,7	210	10,2	7,3	8,6		0,65		0,30
8	211	13,4	8,5	9,4		0,45		0,25
8	212	13,0	8,7	10,0	1,0±0,1	0,65		0,35
8	213	14,0	8,7	10,4		0,85		0,35
8	214	16,0	8,7	10,4		0,85		0,35
8,5	215	13,3	9,3	10,5		0,60		0,40
10	216	16,0	10,35	12,0	2,0±0,1	0,82		0,17
10	217	16,0	10,7	12,4		0,85		0,35
10	218	18,0	10,7	12,4		0,85	0,40	0,35
11	219	16,3	11,4	12,7	1,5±0,1	0,65		0,20
11	220	18,5	11,8	13,7		0,95		0,40
11	221	19,1	11,8	13,5		0,85		0,40

Burst pressures were calculated using 540MN/m2 (35 ton f/in2) UTS steel.

THREAD SIZE DIA M	SIZE REFERENCE	D +0,13 −0,00	d ±0,10	d_1 ±0,10	S	R ±0,1	P +0,25 −0,00	RADIAL GAP G ±0,05
12	222	18,0	12,7	14,4		0,85		0,35
12	223	20,0	12,7	14,4		0,85		0,35
13	224	20,0	13,7	15,4		0,85		0,35
13	225	22,0	13,7	15,4		0,85		0,35
13,5	226	18,7	14,0	15,7		0,85		0,25
14	227	22,0	14,7	16,4	1,5±0,1	0,85		0,35
15	228	22,7	16,0	17,78		0,89		0,50
16	229	24,0	16,7	18,4		0,85		0,35
17	230	24,0	17,4	19,2		0,90		0,20
17,5	231	24,7	18,0	20,1		1,05		0,25
18	232	26,0	18,7	20,4		0,85		0,35
20	233	28,0	20,7	22,5		0,90		0,35
21	234	28,7	21,5	23,3	2,5±0,15	0,90		0,25
22	235	28,0	22,5	24,2	1,5±0,1			0,25
22	236	30,0	22,7	24,4	2,0±0,1	0,85		0,35
22	237	30,0	22,7	24,4	3,0±0,1	0,85	0,40	0,35
24	238	32,0	24,7	26,4		0,85		0,35
27	240	36,0	27,2	29,0		0,90		0,10
30	242	39,0	31,0	33,0	2,0±0,1	1,0		0,50
33	243	42,0	33,7	35,8		1,05		0,35
33	244	43,0	34,3	36,4		1,05		0,65
36	245	46,0	36,7	38,8		1,05		0,35
39	246	51,0	40,0	41,9	2,5±0,1	0,95		0,50
42	247	53,0	42,7	44,4		0,85		0,35
48	248	59,0	48,7	50,8		1,05		0,35
51	249	60,0	52,0	54,1	3,0±0,15			0,50
52	250	64,5	53,3	56,4				0,65
60	251	73,0	60,7	63,0		1,15		0,35
68	252	79,5	68,6	72,1	3,5±0,15	1,75		0,30
75	253	90,3	76,08	79,1	3,38±0,15	1,51		0,54
88	254	101,48	89,09	92,1	3,25±0,15	1,50		0,54
125	255	143,67	127,0	132,7	5,0±0,15			1,0

Preferred size where options are present