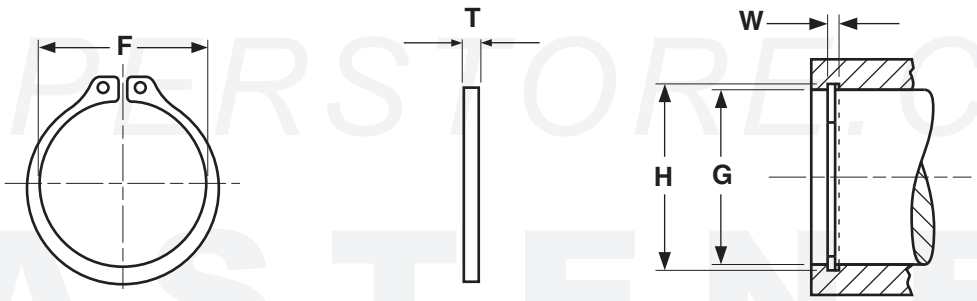
RETAINING RINGS

DIN 471



DIN 471 External Type Retaining Rings

Carbon Spring Steel		H (d1)	G (d2)	W (m)	F (d3)		T (S)
Kanebridge Part Number	Rotor Clip® Part Number	Shaft Diameter	Groove Diameter	Groove Width	Free Diameter		Thickness
		Nom	Nom	Nom	Max	Min	Nom
M6D471	DSH-6	6	5.7	0.80	5.64	5.45	0.70
M10D471	DSH-10	10	9.6	1.10	9.4	8.94	1.00
M12D471	DSH-12	12	11.5	1.10	11.1	10.64	1.00
M14D471	DSH-14	14	13.4	1.10	13.0	12.54	1.00
M15D471	DSH-15	15	14.3	1.10	13.9	13.44	1.00
M16D471	DSH-16	16	15.2	1.10	14.8	14.34	1.00
M17D471	DSH-17	17	16.2	1.10	15.8	15.34	1.00
M20D471	DSH-20	20	19.0	1.30	18.63	18.08	1.20
M22D471	DSH-22	22	21.0	1.30	20.63	20.08	1.20
M25D471	DSH-25	25	23.9	1.30	23.41	22.78	1.20
M30D471	DSH-30	30	28.6	1.60	28.11	27.48	1.50
M35D471	DSH-35	35	33.0	1.60	32.45	31.7	1.50
M36D471	DSH-36	36	34.0	1.85	33.45	32.7	1.75
M40D471	DSH-40	40	37.5	1.85	36.89	35.6	1.75
M45D471	DSH-45	45	42.5	1.85	41.89	40.6	1.75
M50D471	DSH-50	50	47.0	2.15	46.19	44.9	2.00
M60D471	DSH-60	60	57.0	2.15	56.26	54.7	2.00
M80D471	DSH-80	80	76.5	2.65	74.96	73.4	2.50
M90D471	DSH-90	90	86.5	3.15	85.04	83.2	3.00

Description	A ring-shaped stamping with one opening on the circumference. The two ends at the opening are called lugs and flare out slightly allowing for easier installation onto shafts.
Applications/ Advantages	The external retaining ring is for axial assembly into machined grooves on shafts. Tapered section design assures uniform circular deformation allowing for complete contact and tightness in groove. Steel rings can be safely used within a temperature range of -100°F to 500°F.
Material	***SAE 1060 - 1074 hard drawn carbon steel***
Heat Treatment	External retaining rings from nominal sizes M3 thru M48 are heat treated using the austempering method. Rings are heated at an austenitizing temperature, then rapidly cooled in a salt bath to a certain temperature, which is maintained until their structure convert into lower bainite. The resulting structure features high tensile strength, hardness and excellent toughness. Parts are then cooled to room temperature. Rings M50 and larger are heated at an austenitizing temperature then cooled in oil to room temperature. This martensitic structure features high hardness and brittleness. Parts are then tempered by reheating until they achieve ideal hardness and toughness. Parts are cooled to room temperature.
Hardness	***Sizes M3 thru M49:*** Rockwell C 47 - 54 ***Sizes M50 thru M200:*** Rockwell C 44 - 51
Finish	See Appendix-A for information about the coating of retaining rings.