

Kryptane® Polyurethane Coefficient of Friction



STATIC

Argonics Kryptane Polyurethane	Argonics Static CoF	Natural Rubber 40A	Grain Industry Competitor Urethane Blue 85A	Grain Industry Competitor Urethane Orange 82A	SBR Rubber Black 75A	AR400 Steel	Mild Steel	Ceramic	UHMW Black 70A	TIVAR® 88 65D
Test Material CoF		1.500	1.130	1.100	1.050	0.450	0.400	0.279	0.120	0.117
93A Ester	0.469	-68.7%	-58.5%	-57.4%	-55.3%	4.2%	17.3%	68.1%	290.8%	300.9%
83A FRAS	0.557	-62.9%	-50.7%	-49.4%	-47.0%	23.8%	39.3%	99.6%	364.2%	376.1%
90A Ether	0.579	-61.4%	-48.8%	-47.4%	-44.9%	28.7%	44.8%	107.5%	382.5%	394.9%
69A FRAS	0.716	-52.3%	-36.6%	-34.9%	-31.8%	59.1%	79.0%	156.6%	496.7%	512.0%
80A Ether	0.757	-49.5%	-33.0%	-31.2%	-27.9%	68.2%	89.3%	171.3%	530.8%	547.0%
83A Ester	0.524	-65.1%	-53.6%	-52.4%	-50.1%	16.4%	31.0%	87.8%	336.7%	347.9%
74A Ether	1.270	-15.3%	12.4%	15.5%	21.0%	182.2%	217.5%	355.2%	958.3%	985.5%
62A Ether	1.460	-2.7%	29.2%	32.7%	39.0%	224.4%	265.0%	423.3%	1116.7%	1147.9%
69A Ester	0.960	-36.0%	-15.0%	-12.7%	-8.6%	113.3%	140.0%	244.1%	700.0%	720.5%
63A Ester	1.420	-5.3%	25.7%	29.1%	35.2%	215.6%	255.0%	409.0%	1083.3%	1113.7%

Negative values highlighted in green mean the Argonics formula has a lower coefficient of friction.

SUMMARY

The coefficient of static friction is a number that shows **how much frictional force is needed to make a stationary object start sliding on a surface.**

- The closer the CoF is to 0, the less friction there is.
- The higher the CoF, the more friction there is between the surfaces.

The coefficient of static friction is higher than the coefficient of kinetic friction.

TESTING METHODS USED

Coefficient of Friction (ASTM D1894)

Per ASTM D1894, specimens conditioned at 23 ± 2 C/50% ± 10% R.H for 40 hours.

Test Conditions: 23°C 3 2°C / 50% 3 10% RH

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520 9th Street • Gwinn, MI 49841
906.226.9747 f: 906.226.9779
www.argonics.com

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Coefficient of Friction (CoF)

KINETIC

Argonics Kryptane Polyurethane	Argonics Kinetic CoF	Natural Rubber 40A	Grain Industry Competitor Urethane Orange 82A	Grain Industry Competitor Urethane Blue 85A	SBR Rubber Black 75A	AR400 Steel	Mild Steel	Ceramic	TIVAR® 88 65D	UHMW Black 70D
Test Material CoF		1.280	1.120	0.948	0.784	0.325	0.300	0.248	0.138	0.122
93A Ester	0.389	-69.6%	-65.3%	-59.0%	-50.4%	19.7%	29.7%	56.9%	181.9%	218.9%
83A FRAS	0.462	-63.9%	-58.8%	-51.3%	-41.1%	42.2%	54.0%	86.3%	234.8%	278.7%
90A Ether	0.539	-57.9%	-51.9%	-43.1%	-31.3%	65.8%	79.7%	117.3%	290.6%	341.8%
69A FRAS	0.647	-49.5%	-42.2%	-31.8%	-17.5%	99.1%	115.7%	160.9%	368.8%	430.3%
80A Ether	0.688	-46.3%	-38.6%	-27.4%	-12.2%	111.7%	129.3%	177.4%	398.6%	463.9%
83A Ester	0.827	-35.4%	-26.2%	-12.8%	5.5%	154.5%	175.7%	233.5%	499.3%	577.9%
74A Ether	0.956	-25.3%	-14.6%	0.8%	21.9%	194.2%	218.7%	285.5%	592.8%	683.6%
62A Ether	1.270	-0.8%	13.4%	34.0%	62.0%	290.8%	323.3%	412.1%	820.3%	941.0%
69A Ester	1.330	3.9%	18.8%	40.3%	69.6%	309.2%	343.3%	436.3%	863.8%	990.2%
63A Ester	1.410	10.2%	25.9%	48.7%	79.8%	333.8%	370.0%	468.5%	921.7%	1055.7%

Negative values highlighted in green mean the Argonics formula has a lower coefficient of friction.

SUMMARY

The coefficient of kinetic friction tells you **how much force is required to keep a moving object in motion.**

- The closer the CoF is to 0, the less friction there is.
- The higher the CoF, the more friction there is between the surfaces.

The coefficient of kinetic friction is lower than the coefficient of static friction.

TESTING METHODS USED

Coefficient of Friction (ASTM D1894)

Per ASTM D1894, specimens conditioned at 23 + 2 C/50% + 10% R.H for 40 hours.

Test Conditions: 23°C 3 2°C / 50% 3 10% RH

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