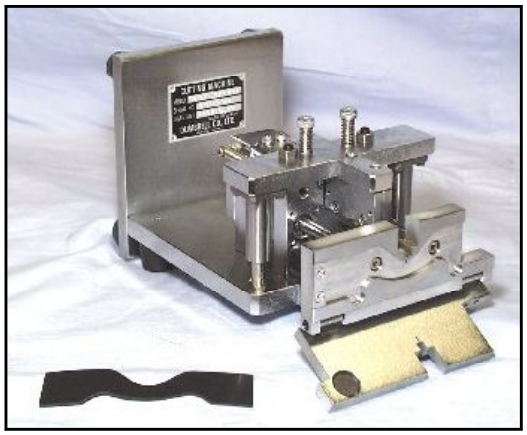
MODEL SDSC-1200 SERIES

SLITTING JIG FOR TEAR TEST OF VALCANIZED RUBBER

【*Shin-Etsu Chemical Co.,ltd.* Jointly Developed Product Obtained Utility Model Right】



CONTENT

Ⅰ. Kinds of this new JIG

Model: SDSC-1200NJ	for JIS K6252, ISO 34-1 Crescent test piece	Nick 1±0.2mm
Model: SDSC-1200AS	for ASTM D624 Die B	Nick 0.5±0.05mm
Model: SDSC-1200J	for JIS K6301 A-shaped	Nick 0.5±0.08mm

Ⅱ. Comparison of a slit part by the pictures between Conventional jig and New jig

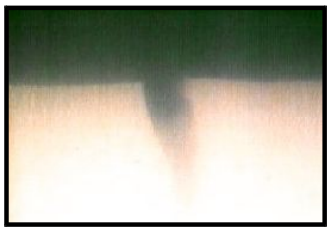
Hardness: JIS-A 62 Tensile strength:56kgf / ㎠ Elongation:240%

【Conventional jig】

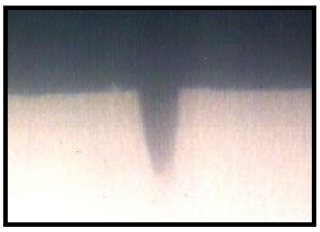
【New jig】

Hardness: JIS-A 14 Tensile strength:44kgf / ㎠ Elongation:760%

【Conventional jig】



【New jig】



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Ⅲ. Comparison by data between Conventional jig and New jig

Table 1 Comparison of result in silicone rubber

*1 Average is length calculated by(Shallow＋Deep)/ 2
*2 Calculated basing on average value of each [*1]

		Conventional jig (0.5mm)	New jig (0.5mm)	New jig (1.0mm)
Average value(mm) of slitting length	Shallow	0.442	0.488	0.986
	Deep	0.688	0.545	1.055
	Average *1	0.565	0.517	1.020
	Difference of slitting	0.246	0.057	0.069
CV value(%) of slitting	Shallow	21.4	5.5	7.8
	Deep	24.3	6.9	10.0
	Average *2	12.6	4.9	8.7
CV value(%) of tear strength		2.7	2.1	1.7

【Reference Value: Hardness: JIS-A 60 Tensile strength(kgf /㎠):81 Elongation(%):290】

Table 2 Comparison in various rubbers

*1 Slitting length and CV value of slitting are calculated by average of slitting(Average of slitting of front and back of specimen {Shallow＋Deep}/2)

kinds	Reference property			Slitting length(mm) *1		CV value(%) of slitting *1	
	Hardness	Tensile strength	Elong-ation	Conventional jig (0.5mm)	New jig (0.5mm)	Conventional jig (0.5mm)	New jig (0.5mm)
A	JIS-A 14	44kgf/㎠	760 %	0.867	0.475	23.3	19.0
B	JIS-A 30	48kgf/㎠	340 %	1.058	0.548	26.6	6.8
C	JIS-A 38	72kgf/㎠	350 %	1.018	0.510	9.2	3.9
D	JIS-A 60	80kgf/㎠	290 %	0.565	0.517	12.6	5.0
E	JIS-A 62	56kgf/㎠	240 %	0.492	0.475	2.9	0.0

kinds	Reference property			Slitting length(mm)		CV value(%) of slitting	
	Hardness	Tensile strength	Elong-ation	Conventional jig (0.5mm)	New jig (0.5mm)	Conventional jig (0.5mm)	New jig (0.5mm)
For roll	JIS-A 1	10kgf/㎠	450 %	not slit	0.625	not slit	0.0
For roll	JIS-A 10	13kgf/㎠	300 %	0.900	0.592	7.4	6.5
Rubber contact	JIS-A 13	42kgf/㎠	740 %	1.317	0.625	17.6	14.4
Rubberc ontact	JIS-A 14	44kgf/㎠	760 %	1.867	0.475	23.3	19.0
For die making	JIS-A 30	48kgf/㎠	340 %	1.058	0.548	26.6	6.8
For nipple	JIS-A 35	110kgf/㎠	890 %	0.485	0.586	37.8	7.1
For die making	JIS-A 36	120kgf/㎠	900 %	0.858	0.617	13.1	2.3
Rubber contact	JIS-A 38	72kgf/㎠	350 %	1.018	0.510	9.2	3.9
For insulating material	JIS-A 60	80kgf/㎠	290 %	0.565	0.517	12.6	5.0
For die making	JIS-A 62	56kgf/㎠	240 %	0.492	0.475	2.9	0.0

	Unevenness of slitting of all products		
	CV value(%) Manual	CV value(%) Machine(0.5mm)	CV value(%) Machine(1.0mm)
Shallow	53.0	10.4	6.4
Deep	33.0	11.9	8.1
Average	37.3	8.5	6.7

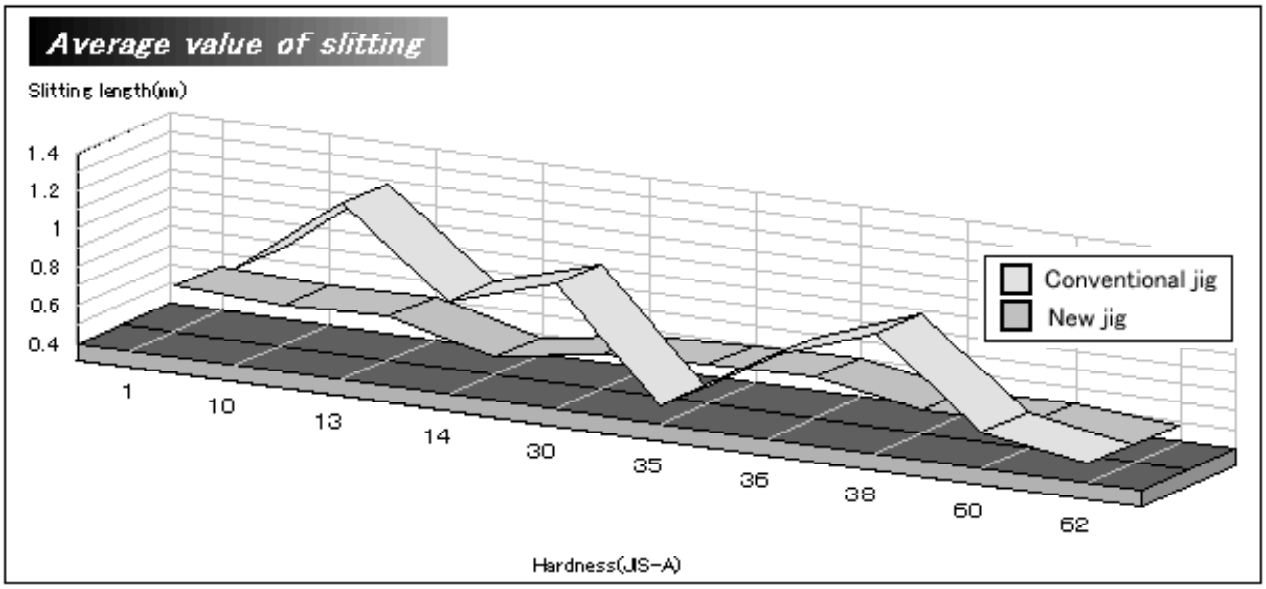
	Average(mm)of slitting of all prpducts		
	Manual	Machine (0.5mm)	Machine (1.0mm)
Shallow	0.640	0.495	1.002
Deep	0.966	0.575	1.098
Average	0.803	0.535	1.050
*3	0.326	0.080	0.096

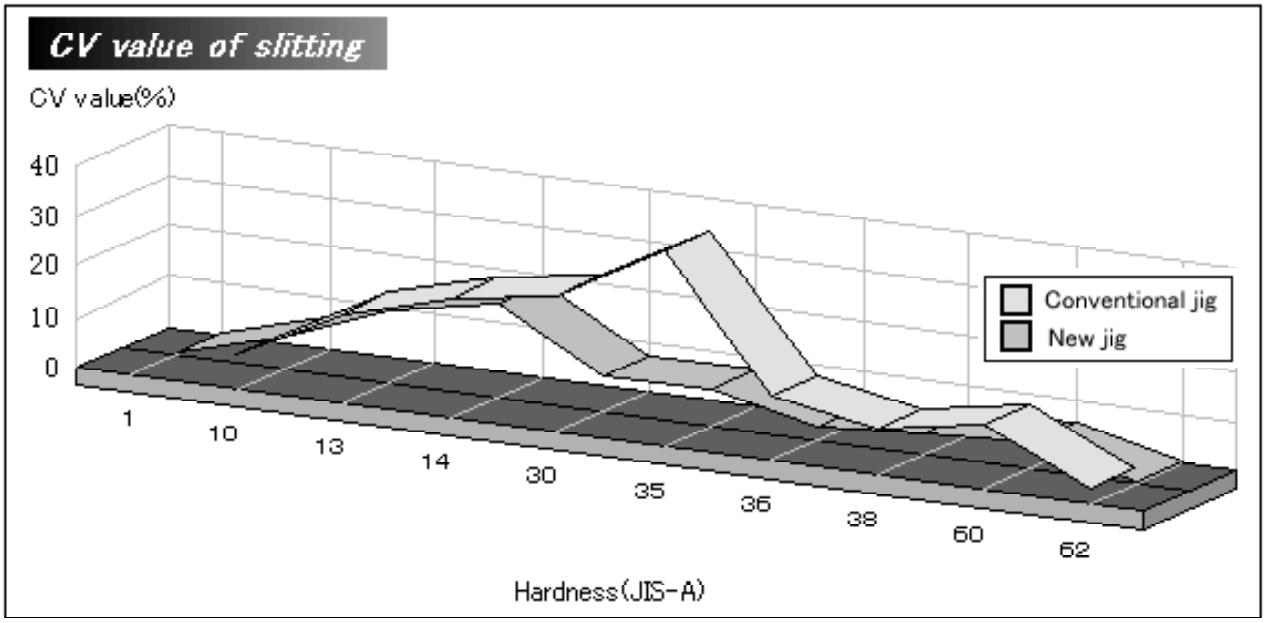
*3 Difference of front & back

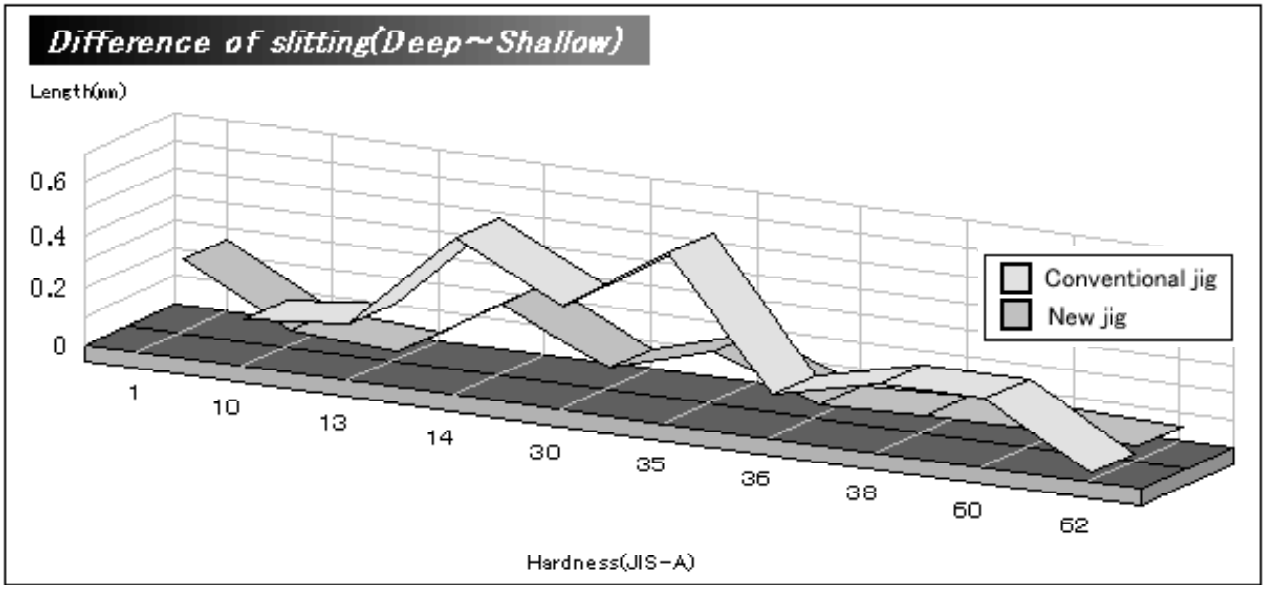
SUPER DUMBBELL CUTTER

MODEL: SDMAK-1000
Conformed to JIS K6252 Crescent shaped standard

Ⅳ. Each data graph according to hardness（JIS-A）







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