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10 January 1985

**Committee D20 on Plastics
Subcommittee D20.10 on Mechanical Properties**

Research Report D20-1120

**Interlaboratory Study to Establish Precision Statements for ASTM
D732-02 Standard Test Method for Shear Strength of Plastics by Punch
Tool**

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ROUND ROBIN ON ASTM D732, PUNCH SHEAR

TABLE 1: RAW DATA, REARRANGED IN 'STANDARD ORDER' PER ASTM E691

LAB	MATERIALS					
	1	5	4	2	6	3
	RIM	HDPE	CTFE	GRP	POLYESTER	SMC
	0.135"	0.070"	0.007"	0.127"	0.010"	0.210" THICKNES.
1	2711. 2691. 2684. 2665. 2621.	3401. 3327. 3405. 3332. 3327.	10243. 8513. 10380. 10334. 10289.	8591. 8642. 8549. 8599. 8609.	13153. 12675. 13121. 13949. 12802.	15400. 15418. 14532. 15117. 15117.
2	2689. 2650. 2760. 2757. 2638.	3536. 3397. 3503. <u>3709</u> 3499.	8559. 8280. 8360. 8662. 8360.	8526. 8877. 8401. 8897. 8493.	**** **** **** **** ****	**** **** **** **** ****
3	2801. 2811. 2811. 2820. 2799.	3468. 3425. 3362. 3399. 3455.	6765. 6262. 5500. 6139. 6719.	8535. 8541. 8415. 8290. 8365.	**** **** **** **** ****	13767. 14294. 15428. 14984. 15265.
4	2890. 2763. 2876. 2766. 2760.	3375. 3378. 3344. 3294. 3372.	6688. 6608. 7507. 7689. 7461.	8651. 8335. 8476. 8777. 8576.	**** **** **** **** ****	**** **** **** **** ****
5	2813. 2813. 2931. 2763. 2763.	3421. 3427. 3477. 3416. 3310.	16414. 15338. 13944. 8924. 10358.	8796. 8672. 8522. 8547. 8522.	**** **** **** **** ****	15680. 15934. 14955. 15782. 15212.
6	2899. 2800. 2800. 2826. 2922.	3321. 3250. 3349. 3312. 3315.	6078. 6247. 5491. 7094. 7730.	8396. 8330. 8281. 8396. 8271.	10345. 8117. 9636. 8073. 10996.	13387. 13718. 13944. 14035. 15165.
7	2987. 2942. 2941. 2829. 2891.	3267. 3274. 3278. 3271. 3342.	3622. 4066. 3658. 4210. 4089.	8672. 8589. 8665. 8410. 8412.	9956. 8538. 9170. 9708. 8610.	14610. 15222. 14415. 14385. 14043.

8	3080.	3170.	5730.	8080.	****	14690.
	2930.	3160.	4330.	7970.	****	15490.
	2900.	3200.	4140.	8070.	****	12480.
	3070.	3130.	3910.	8320.	****	14390.
	3090.	3300.	6000.	8180.	****	14480.
9	2946.	3451.	8325.	9324.	****	14997.
	3052.	3558.	7204.	9349.	****	15367.
	3242.	3493.	8276.	9336.	****	15990.
	3076.	3416.	9157.	9023.	****	16163.
	2853.	3552.	8241.	9274.	****	14207.
10	3076.	3784.	6614.	8634.	9173.	14309.
	3077.	3620.	8048.	8496.	8855.	13250.
	3100.	3669.	6016.	8540.	10012.	14463.
	3005.	3772.	6375.	8717.	9462.	13479.
	3148.	3631.	8128.	8672.	7987.	13936.
11	3250.	3390.	10800.	8630.	****	15400.
	3140.	3430.	11700.	8750.	****	16100.
	3160.	3460.	12400.	8700.	****	14800.
	3090.	3510.	10800.	8590.	****	14100.
	3080.	3440.	11900.	8800.	****	14500.
AVG	2895.	3409.	7903.	8583.	10217.	14720.

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TABLE 3 : CELL AVERAGES

LAB	MATERIALS					
	1	5	4	2	6	3
1	2674.4	3358.4	9951.8	8598.0	13140.0	15116.8
2	2698.8	3528.8	8444.2	8638.8	****	****
3	2808.4	3421.8	6277.0	8429.2	****	14747.6
4	2811.0	3352.6	7190.6	8563.0	****	****
5	2816.6	3410.2	12995.6	8611.8	****	15512.6
6	2849.4	3309.4	6528.0	8334.8	9433.4	14049.8
7	2918.0	3286.4	3929.0	8549.6	9196.4	14535.0
8	3014.0	3192.0	4822.0	8124.0	****	14306.0
9	3033.8	3494.0	8240.6	9261.2	****	15344.8
10	3081.2	3695.2	7036.2	8611.8	9097.8	13887.4
11	3144.0	3446.0	11520.0	8694.0	****	14980.0
AVG	2895.4	3408.6	7903.2	8583.3	10216.9	14720.0