

Supplementary Material

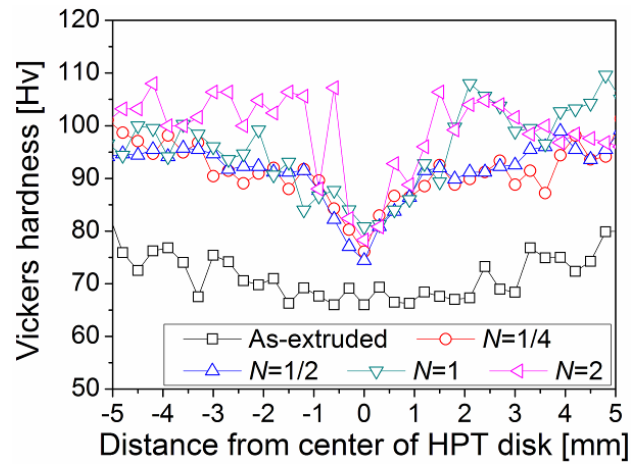


Fig. S1 Variations of Vickers microhardness across the diameter of the HPT disks.

Table S1. Room temperature strain-rate sensitivity of Mg and Mg alloys reported in the literature (T: tensile test, I: indentation test, CLR: constant loading rate test, CSR: constant strain rate test, SRJ: strain rate jump test, ABRC: alternate biaxial reverse corrugation,).

Material	Processing type	d [μm]	Testing method	m	Ref.
Pure Mg	Extrusion	~2-3	CLR (I)	0.03	[S1]
AZ31	Rolling	~12	CSR (T)	0.008-0.015	[S2]
AZ31	Rolling	4.8 1	SRJ (T)	0.005-0.099 0.012-0.017	[S3]
AZ31B	Rolling	9.8	SRJ (T)	0.018-0.029	[S4]
	ABRC	4.5		0.015	
	ABRC + Annealing	1.4		0.007	
AZ91	Casting	-	SRJ (T)	0.002-0.004	[S5]
2.7Zn-0.75Zr-0.45Ag-0.17Ca-0.07Mn	ECAP	1.9 \pm 0.1 0.38 \pm 0.05	T	0.016(T) 0.02(T)	[S6]
ZK60	HPT		CSR (I) SRJ (I)	0.035-0.045 0.035-0.050	In this study

References

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