

Identification for Mooney model: Hardness (50), Damping (Small), V=2

ANSYS 9.0

Mooney model

$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

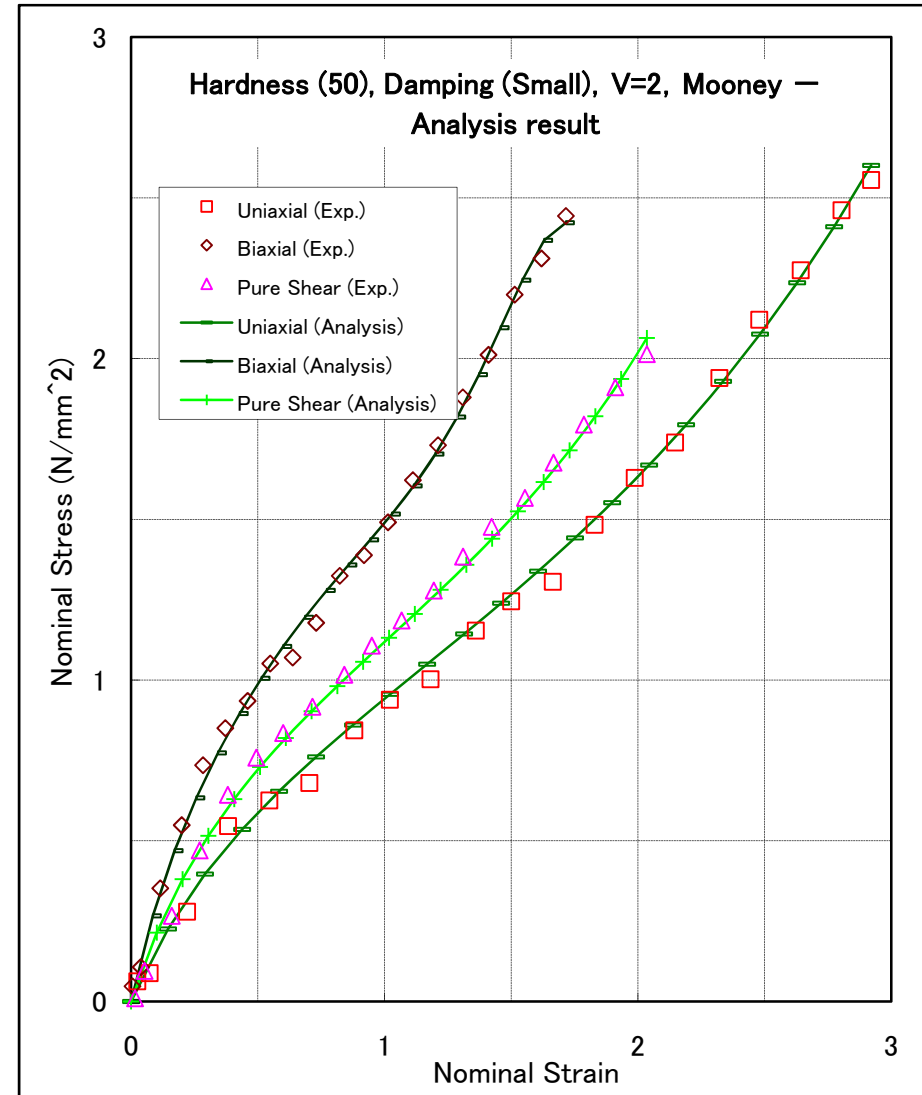
Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	0.23192
C01 (C2)	0.070697
C20 (C3)	0.00077291
C11 (C4)	-0.00018773
C02 (C5)	-0.0032388
C30 (C6)	9.13E-05
C21 (C7)	6.25E-05
C12 (C8)	0.00038832
C03 (C9)	-4.28E-05
C40 (C10)	0

Input File: ys_nss_v2_ansys_m.dat



**Analysis result:
Stress-strain relationship**

Identification for Mooney model: Hardness (50), Damping (Small), V=20

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Mooney model

$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

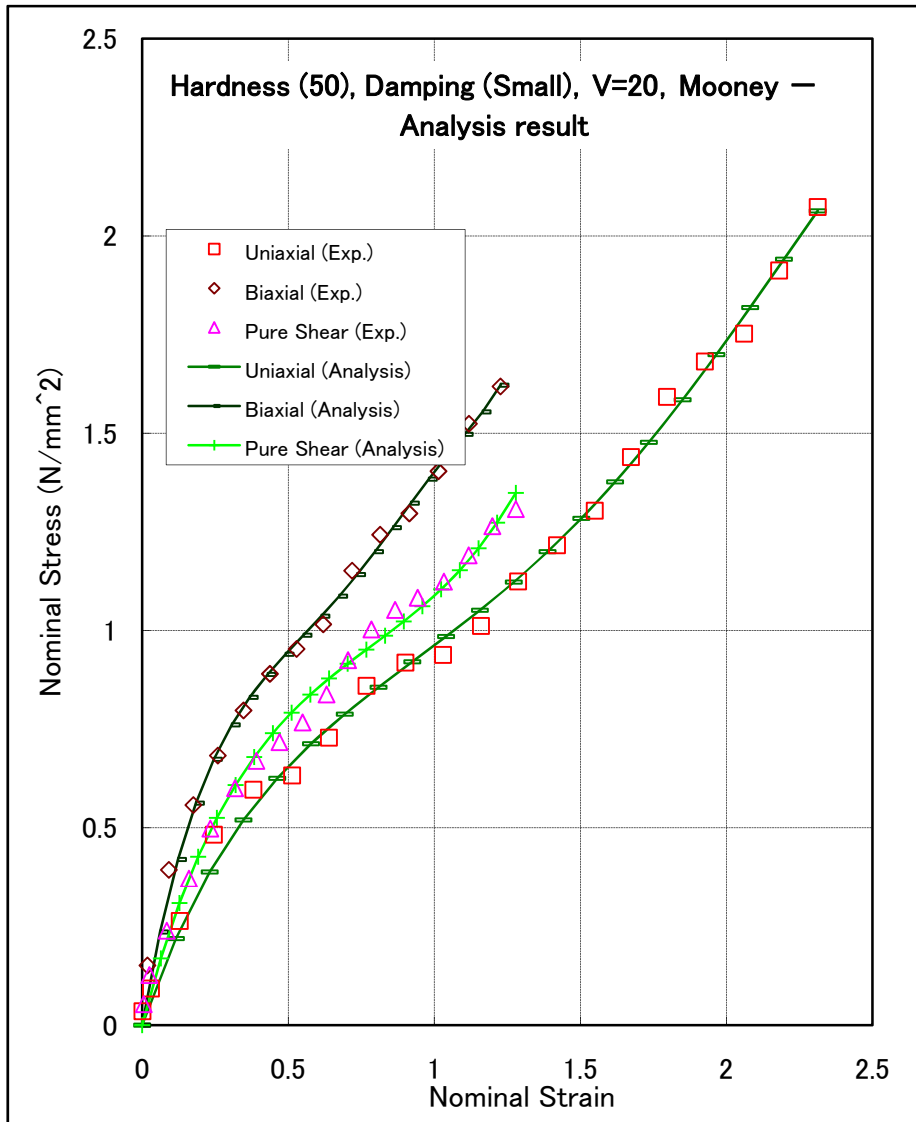
Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient	
C10 (C1)	0.27909
C01 (C2)	0.083414
C20 (C3)	0.001948
C11 (C4)	-0.041035
C02 (C5)	0.0073491
C30 (C6)	-0.0027826
C21 (C7)	0.011409
C12 (C8)	-0.004471
C03 (C9)	0.0004842
C40 (C10)	0

Input File: ys_nss_v20_ansys_m.dat



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (50), Damping (Small), V=2

ANSYS 9.0

Ogden model

$$W = \sum_{n=1}^N \frac{\mu_n}{\alpha_n} \left[J^{-\frac{\alpha_n}{3}} (\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}) - 3 \right]$$

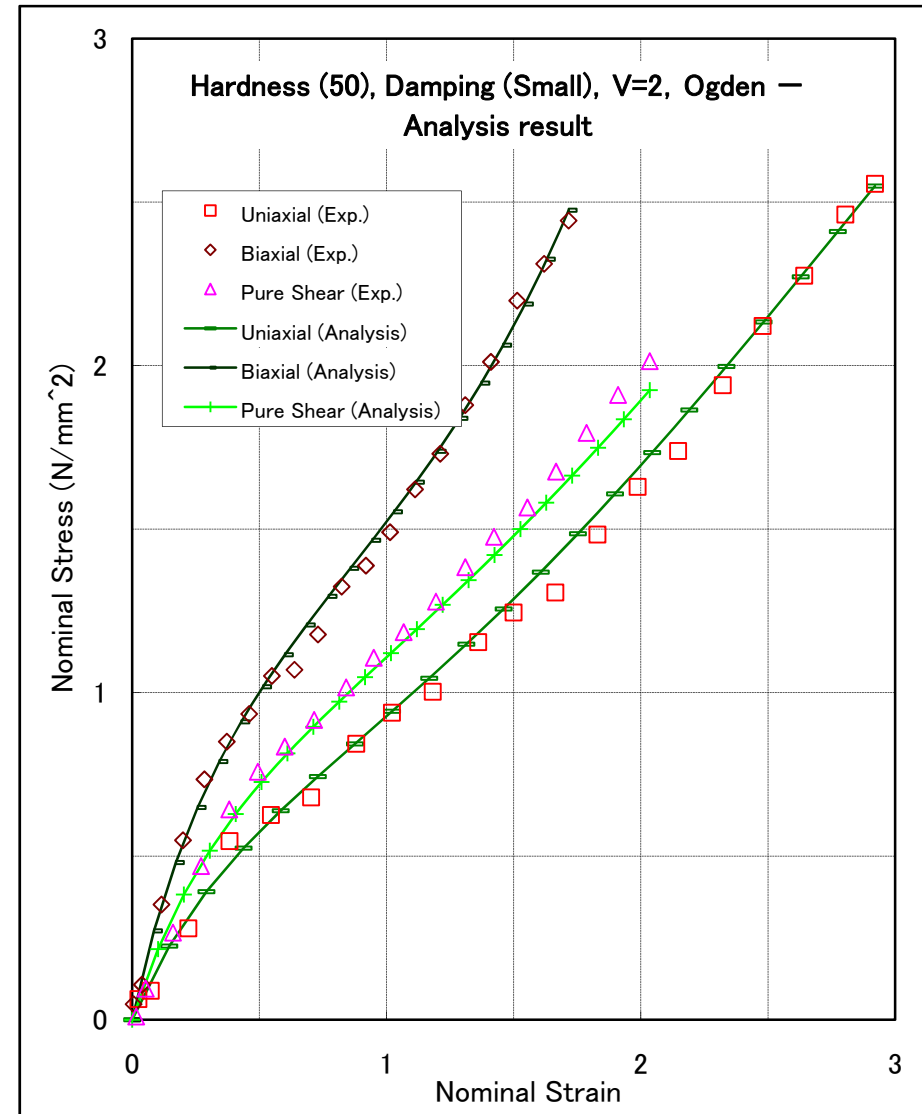
Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	μ	α
1	-50.911	-0.018886
2	-7.6867	4.2905
3	-0.00014329	-3.4034
4	7.7538	4.2863

Input File:ys_nss_v2_ansys_og.dat



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (50), Damping (Small), V=20

ANSYS 9.0

Ogden model

$$W = \sum_{n=1}^N \frac{\mu_n}{\alpha_n} \left[J^{-\frac{\alpha_n}{3}} \left(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n} \right) - 3 \right]$$

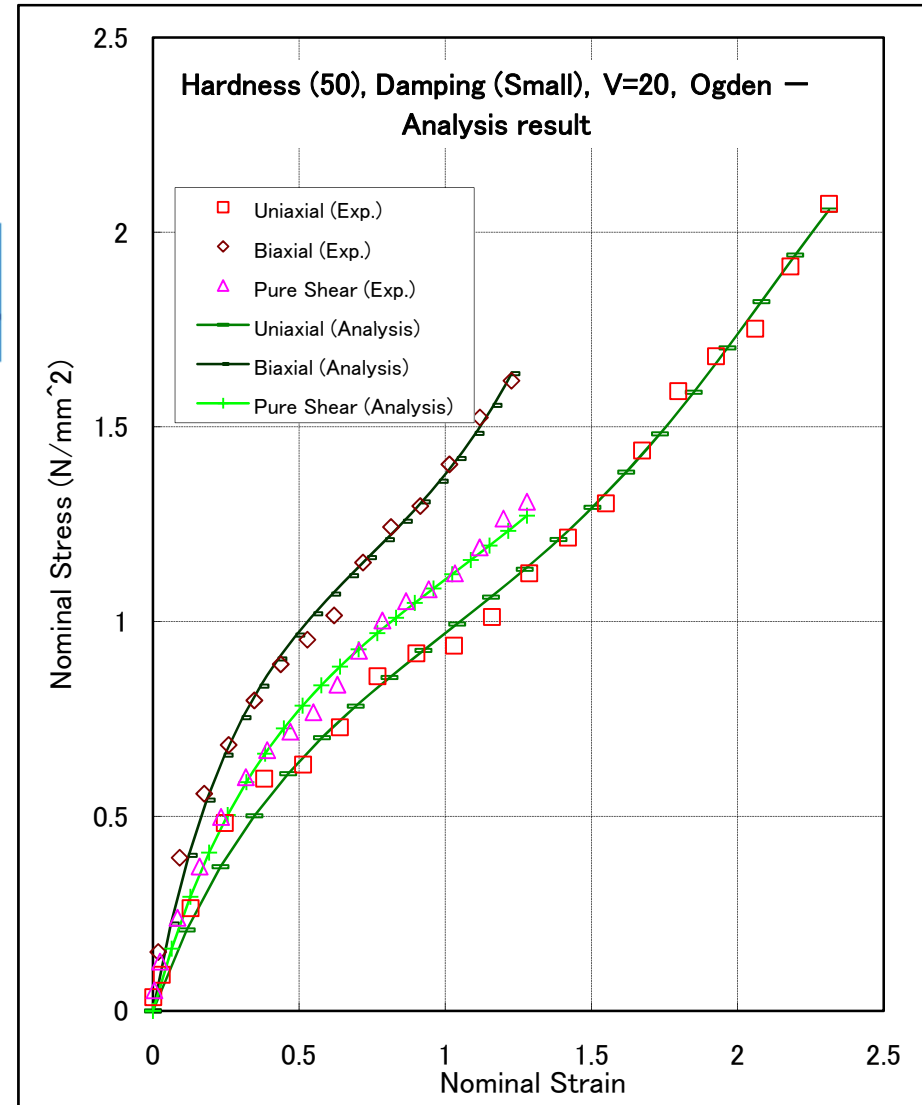
Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	μ	α
1	-0.07163	8.5114
2	-0.00081543	-4.1368
3	0.072269	8.5052
4	1.2147	1.1202

Input File:ys_nss_v20_ansys_og.dat



**Analysis result:
Stress-strain relationship**