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

Japan Association for Nonlinear CAE

ADINA

Mooney model

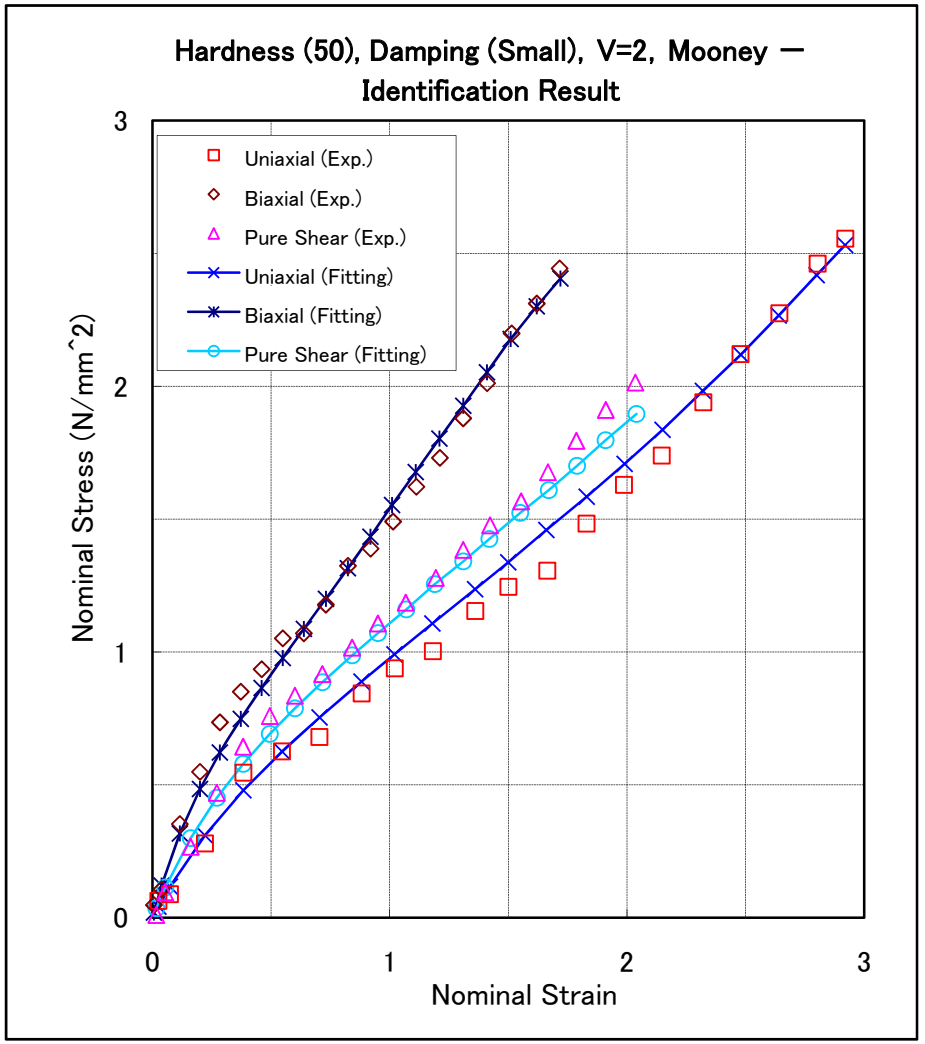
$$W = \sum_{m=1}^{N}\sum_{n=1}^{N} C_{mn}(I_1 - 3)^m (I_2 - 3)^n$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	0.25139355
C01 (C2)	0.035335097
C20 (C3)	0.0029296583
C11 (C4)	−0.000923328
C02 (C5)	−1.20369E−05
C30 (C6)	
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



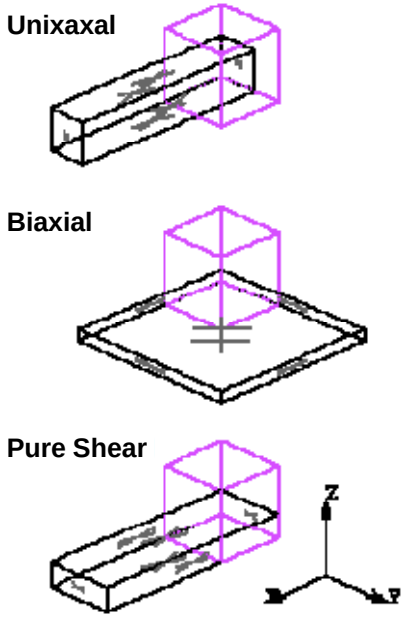
Identification result:
Stress-strain relationship

Analysis with Mooney model: Hardness (50), Damping (Small), V=2

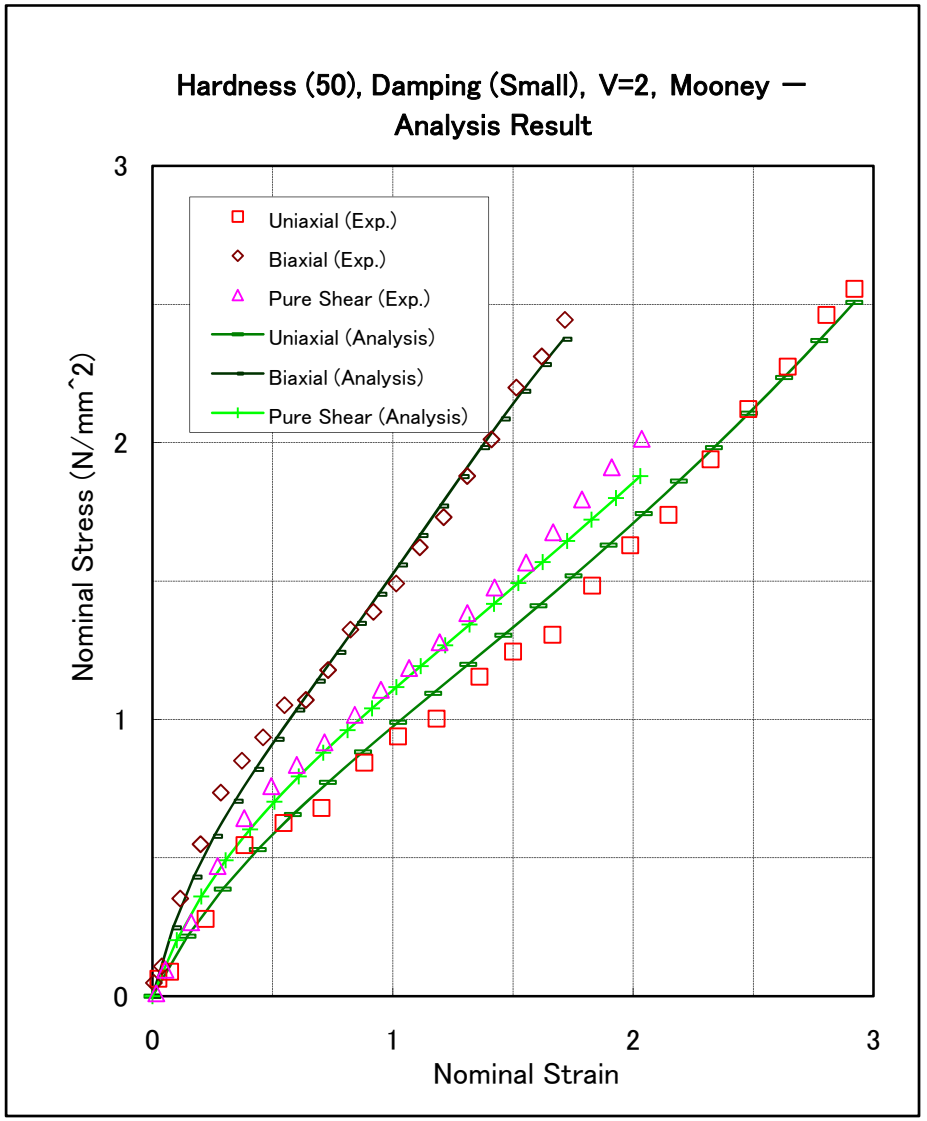
Japan Association for Nonlinear CAE

ADINA

Input File: nss_v1_uni_m.in (Uniaxial)
nss_v1_bi_m.in (Biaxial)
nss_v1_shear_m.in (Pure Shear)



Analysis Model



Analysis result:
Stress-strain relationship

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

Japan Association for Nonlinear CAE

ADINA

Mooney model

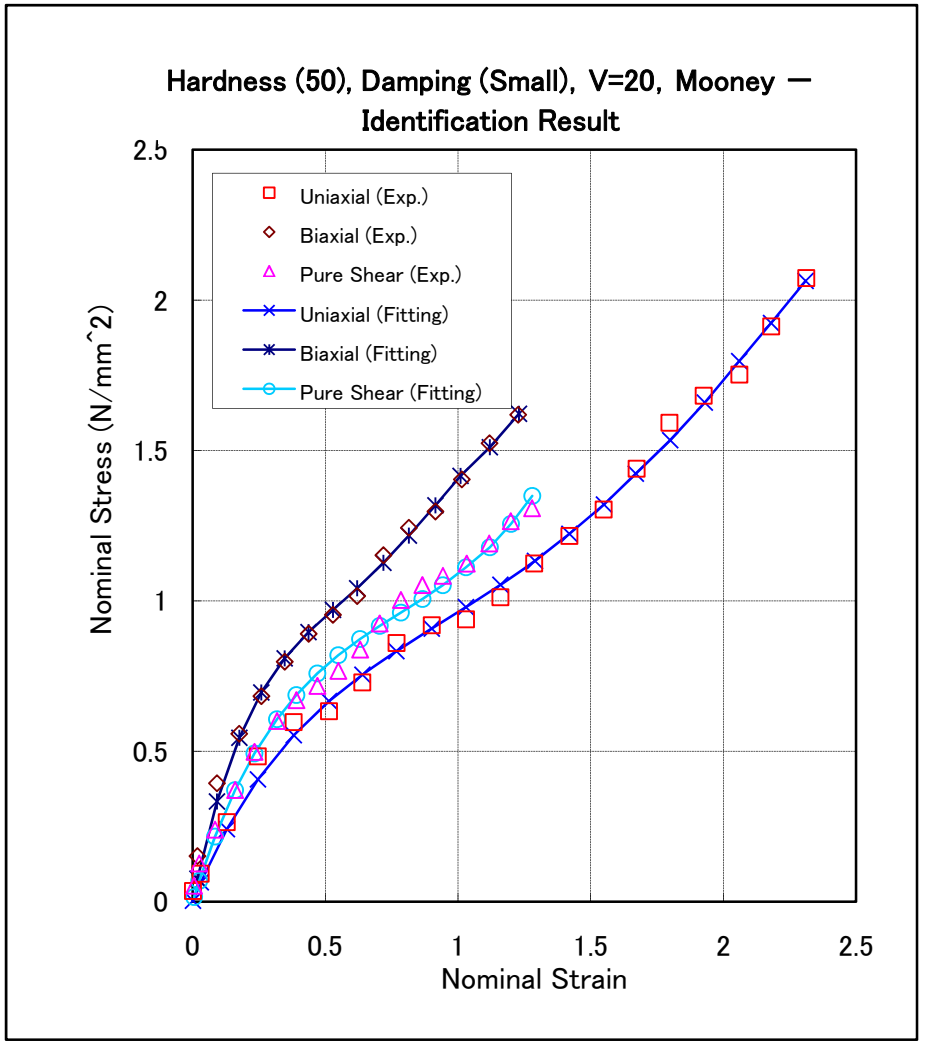
$$W = \sum_{m=1}^{N}\sum_{n=1}^{N} C_{mn}(I_1-3)^m(I_2-3)^n$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient	
C10 (C1)	0.279088614
C01 (C2)	0.083413776
C20 (C3)	0.001948035
C11 (C4)	−0.041034702
C02 (C5)	0.00734905
C30 (C6)	−0.00278259
C21 (C7)	0.011408905
C12 (C8)	−0.004470958
C03 (C9)	0.0004842
C40 (C10)	



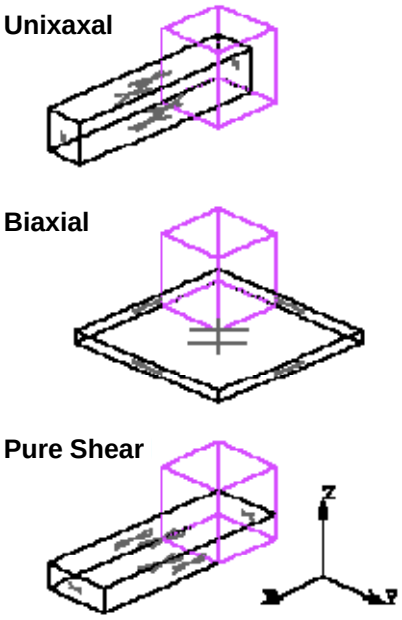
Identification result: Stress-strain relationship

Analysis with Mooney model: Hardness (50), Damping (Small), V=20

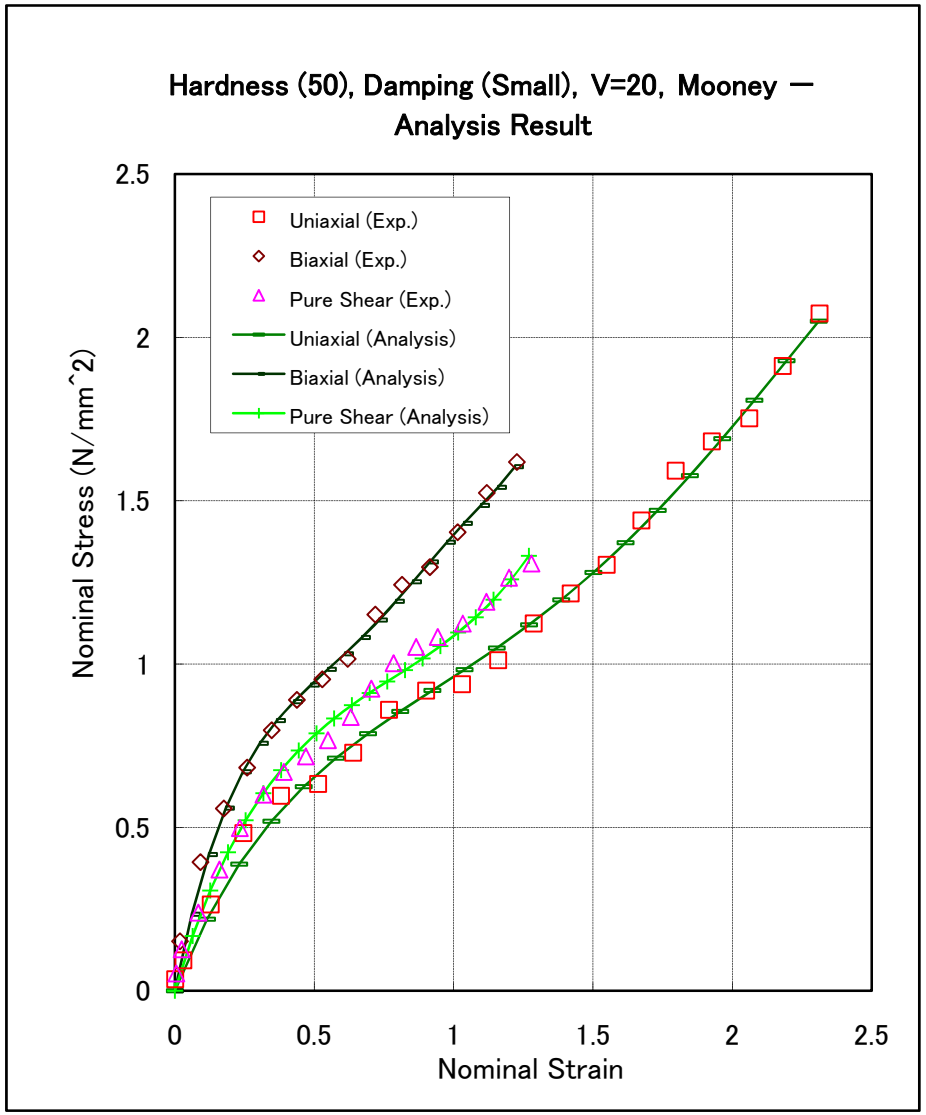
Japan Association for Nonlinear CAE

ADINA

Input File: nss_v10_uni_m.in (Uniaxial)
nss_v10_bi_m.in (Biaxial)
nss_v10_shear_m.in (Pure Shear)



Analysis Model



Analysis result:
Stress-strain relationship

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

ADINA

Ogden model

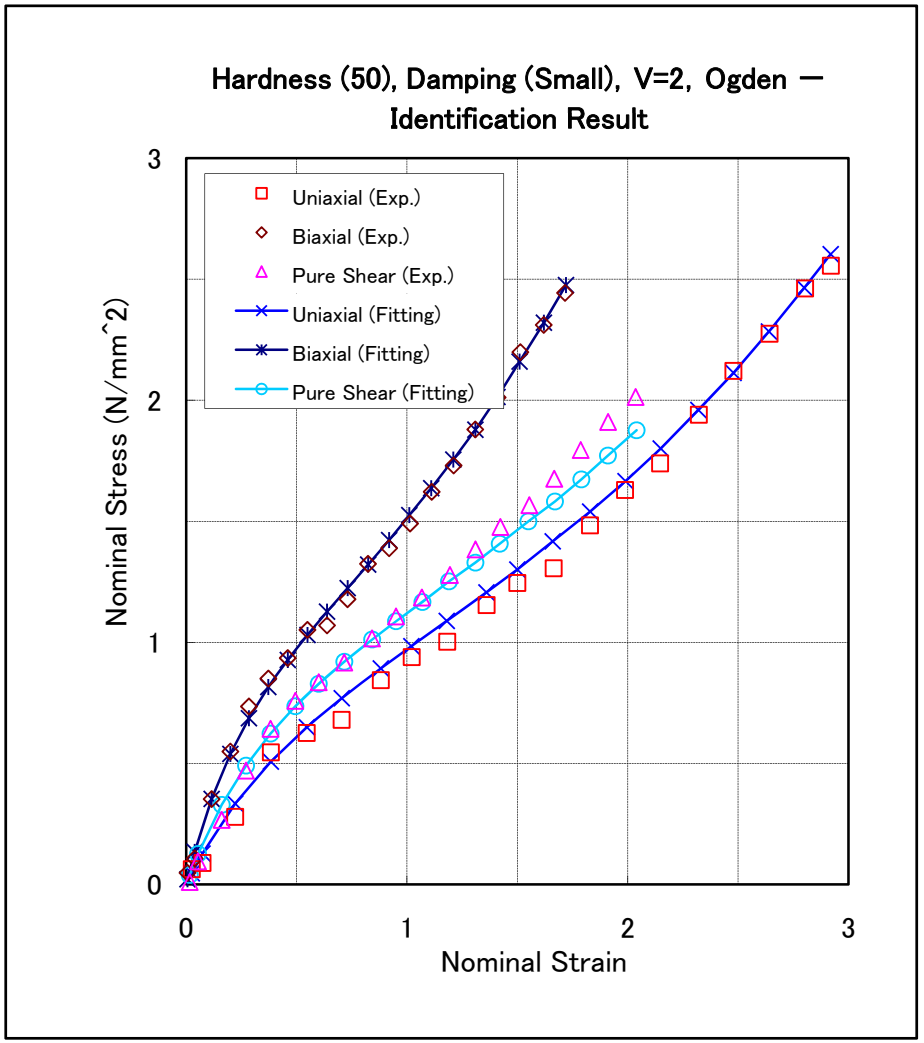
$$W = \sum_{n=1}^{N} \frac{\mu_n}{\alpha_n}\left[\left(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}\right) - 3\right]$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	μ	α
1	−0.044870189	−2
2	0.873194781	1
3	0.105560252	2
4	0.023103555	4



Identification result: Stress-strain relationship

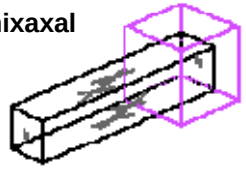
Analysis with Odgen model: Hardness (50), Damping (Small), V=2

Japan Association for Nonlinear CAE

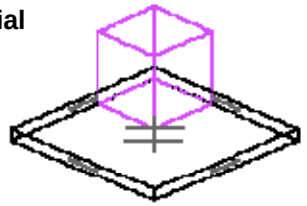
ADINA

Input File: nss_v1_uni_og.in (Uniaxial)
nss_v1_bi_og.in (Biaxial)
nss_v1_shear_og.in (Pure Shear)

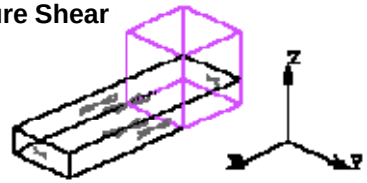
Unixaxal



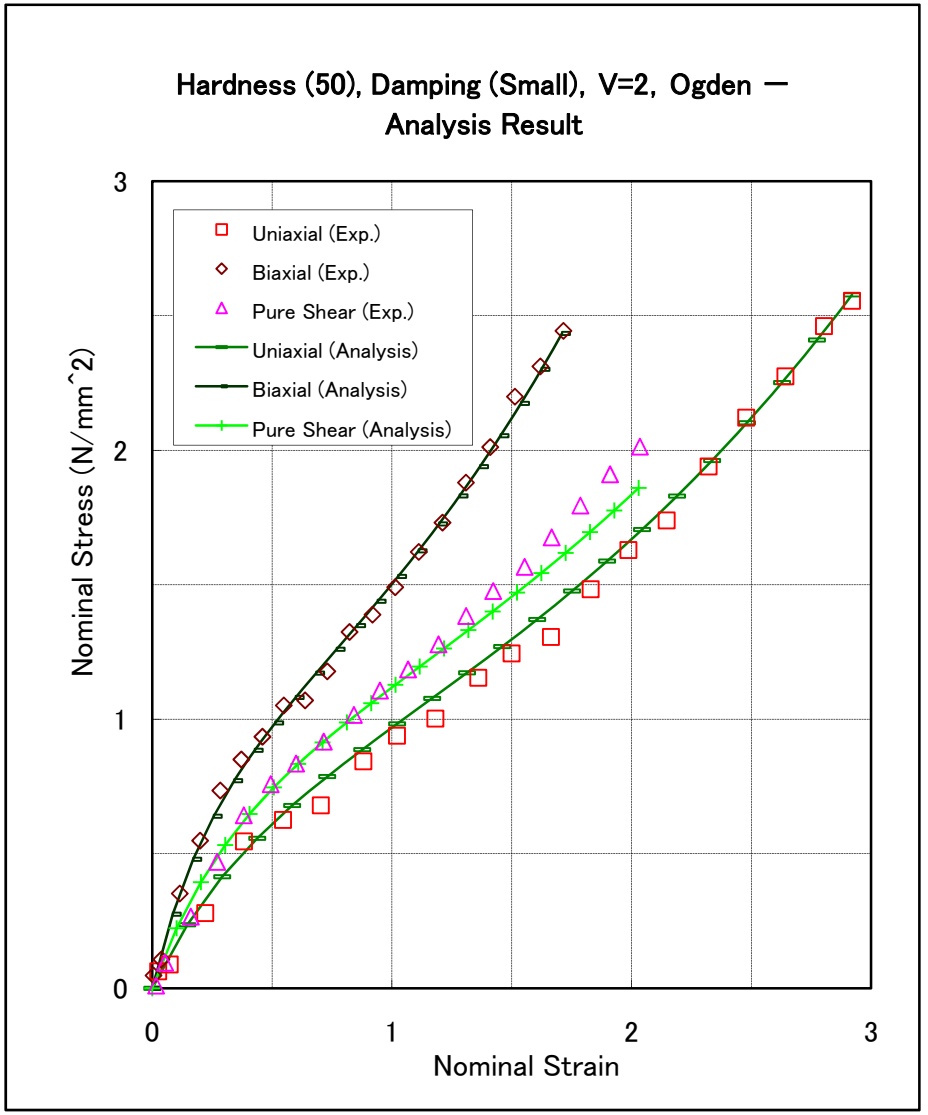
Biaxial



Pure Shear



Analysis Model



Analysis result:
Stress-strain relationship

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

Japan Association for Nonlinear CAE

ADINA

Ogden model

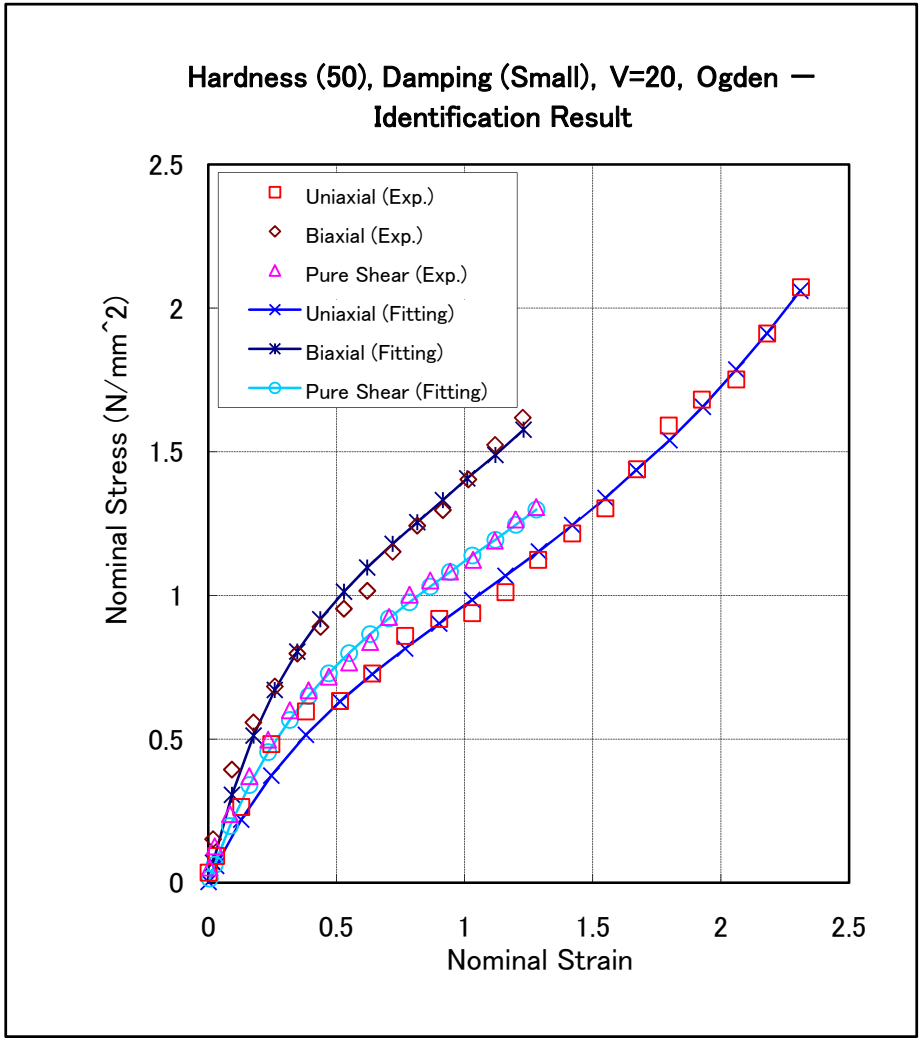
$$W = \sum_{n=1}^{N} \frac{\mu_n}{\alpha_n}\left[\left(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}\right) - 3\right]$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	μ	α
1	−0.018317588	−2
2	1.466346886	1
3	−0.167758227	2
4	0.03744846	4



Identification result: Stress-strain relationship

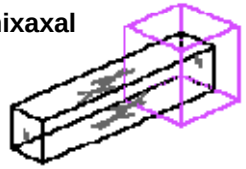
Analysis with Odgen model: Hardness (50), Damping (Small), V=20

Japan Association for Nonlinear CAE

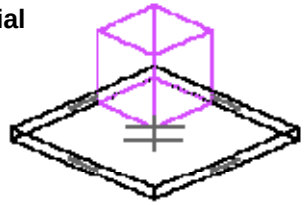
ADINA

Input File: nss_v10_uni_og.in (Uniaxial)
nss_v10_bi_og.in (Biaxial)
nss_v10_shear_og.in (Pure Shear)

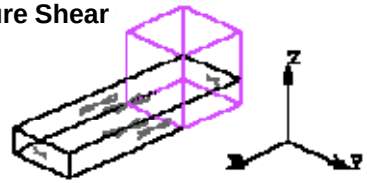
Unixaxal



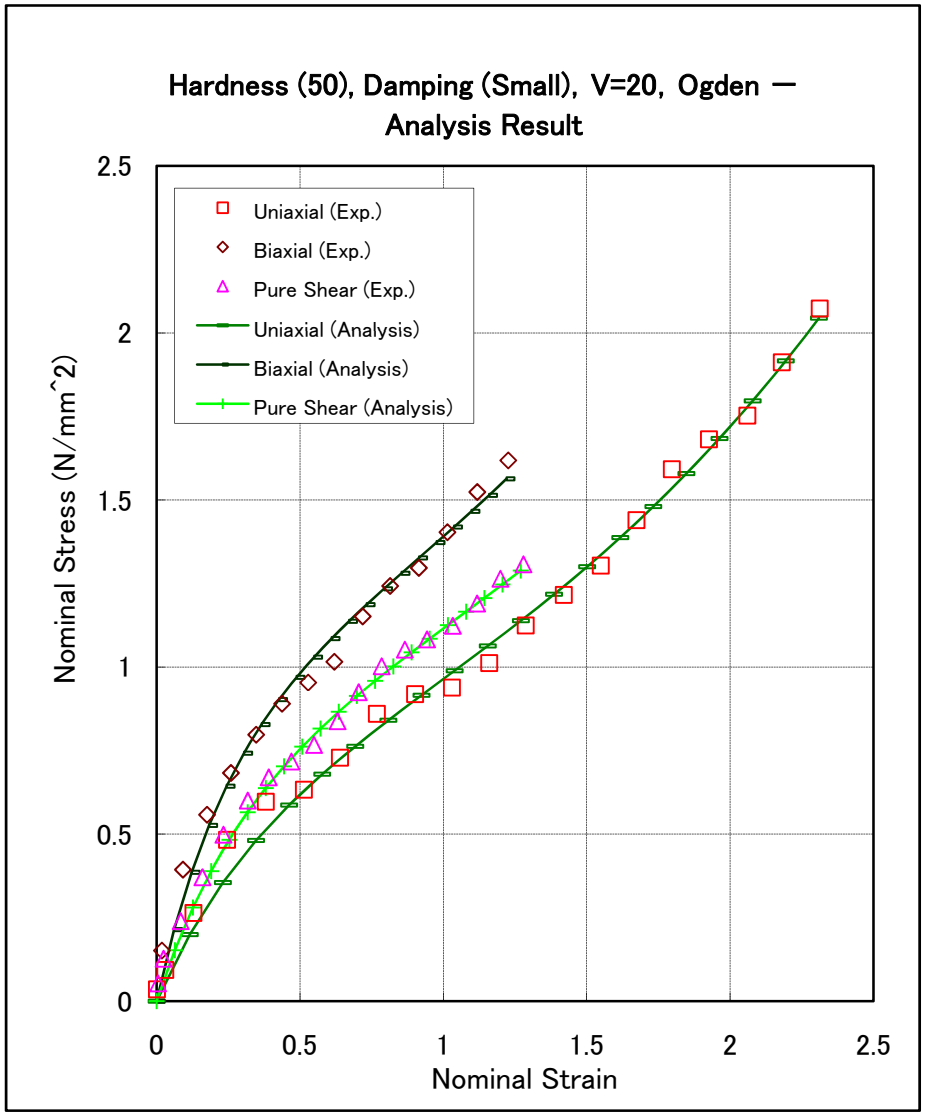
Biaxial



Pure Shear



Analysis Model



Analysis result:
Stress-strain relationship