Identification for Mooney model: αgel, θ-8, V=1.25

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Mooney model

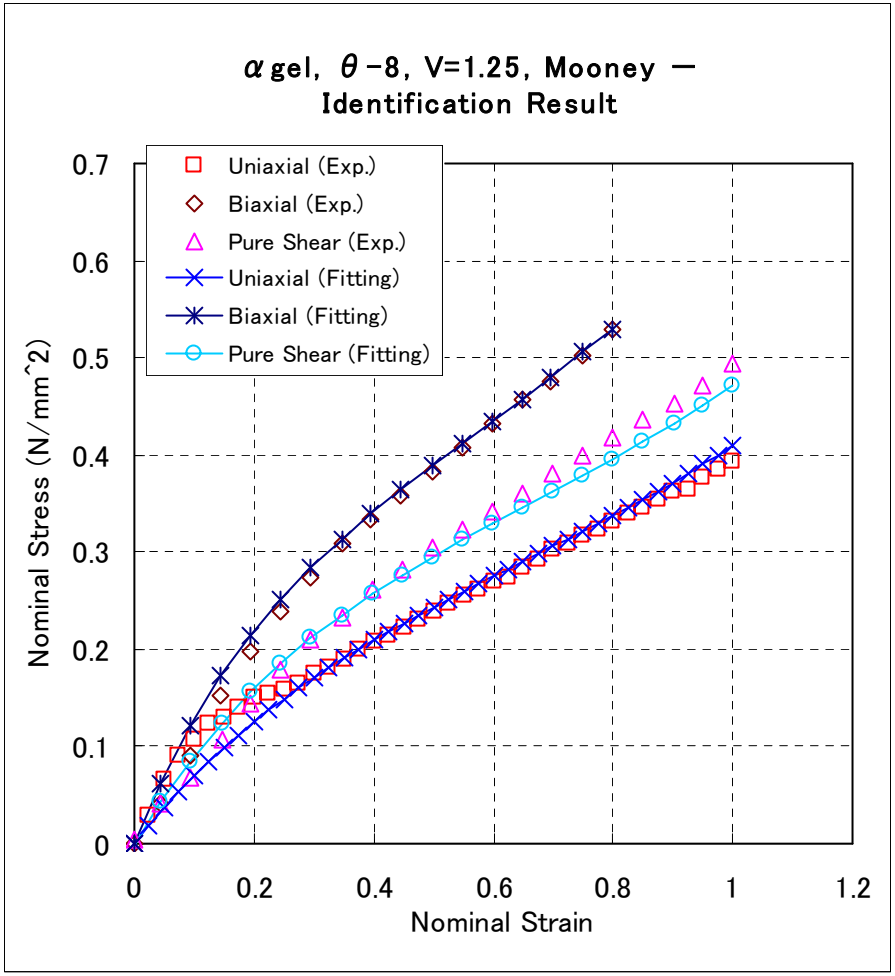
$$W = \sum_{m=1}^{N}\sum_{n=1}^{N} C_{mn}(I_1-3)^m(I_2-3)^n$$

Rate of Loading in Tension Test(s)

1.25 mm/s

Coefficient

Coefficient	
C10 (C1)	0.0999821
C01 (C2)	0.0296319
C20 (C3)	−0.00160987
C11 (C4)	−0.00488954
C02 (C5)	—
C30 (C6)	0.00166253



Identification result:
Stress-strain relationship

Analysis with Mooney model: αgel, θ-8, V=1.25

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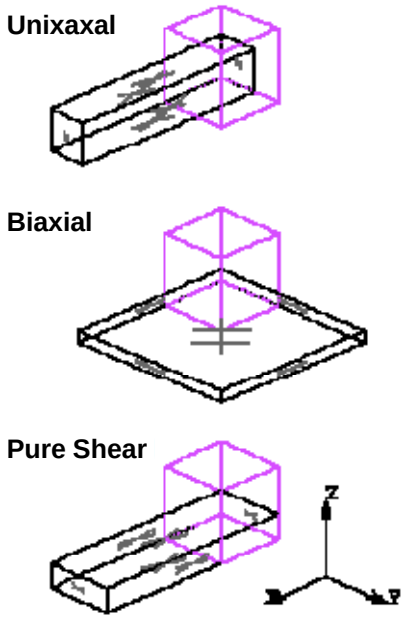
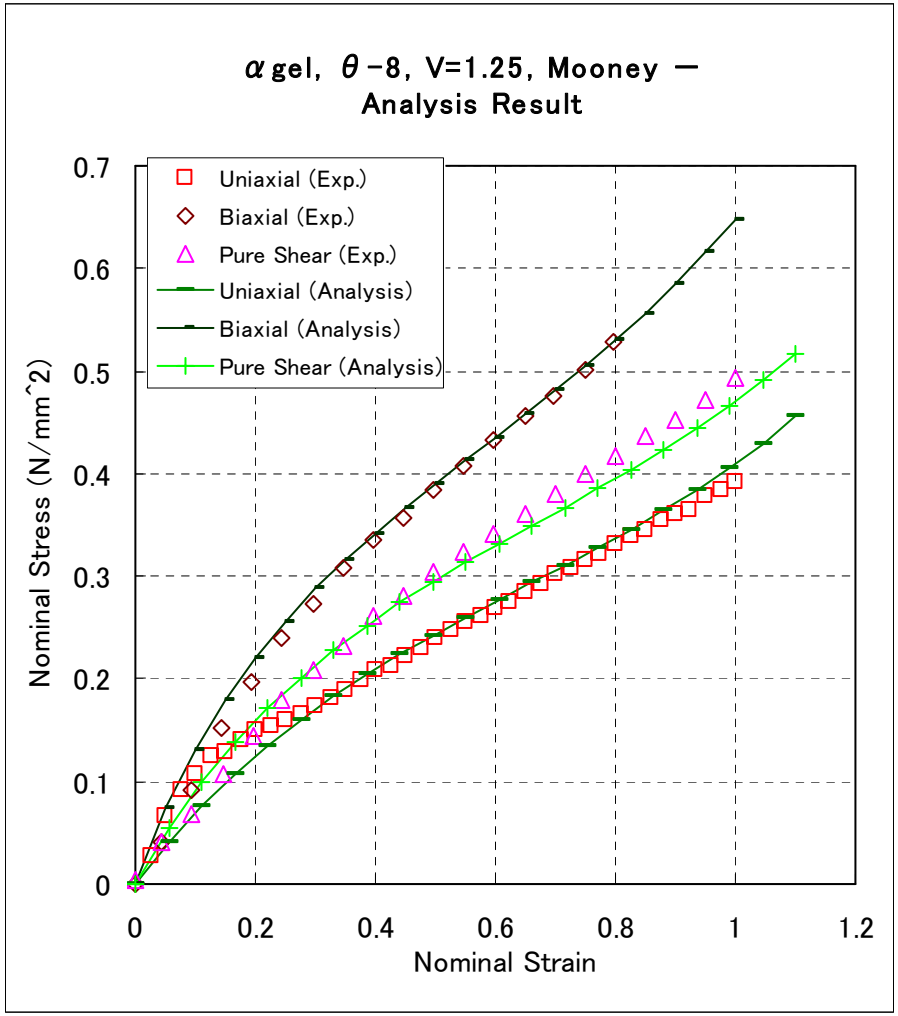
Input File: gel8_v125_marc_m.dat



Analysis model



Analysis result:
Stress-strain relationship

αgel, θ-8, V=1.25 , Identification for Odgen model

MSC.Marc

Ogden model

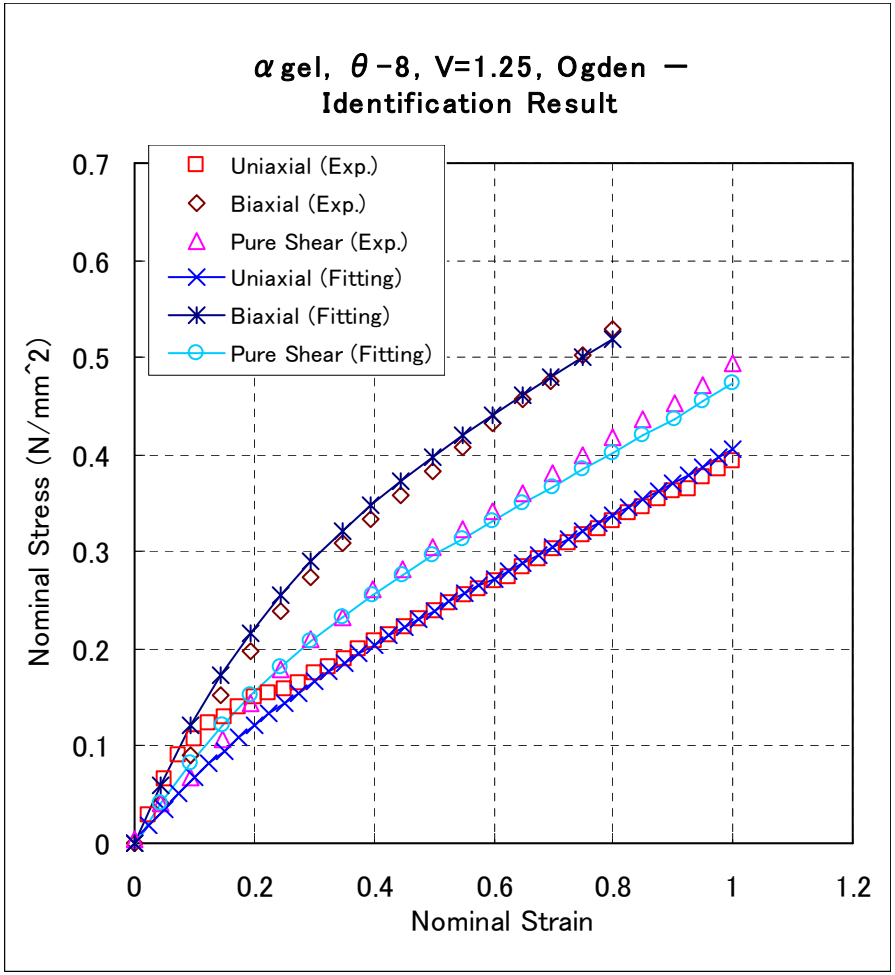
$$W = \sum_{n=1}^{N} \frac{\mu_n}{\alpha_n}\left[J^{-\frac{\alpha_n}{3}}\left(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}\right) - 3 \right]$$

Rate of Loading in Tension Test(s)

1.25 mm/s

Coefficient

Coefficient		
Order	μ	α
1	0.00912444	4.96791
2	2.56242	−0.468159
3	0.694093	0.608667
4	−2.4687	−0.501118



Identification result:
Stress-strain relationship

Analysis with Odgen model: αgel, θ-8, V=1.25

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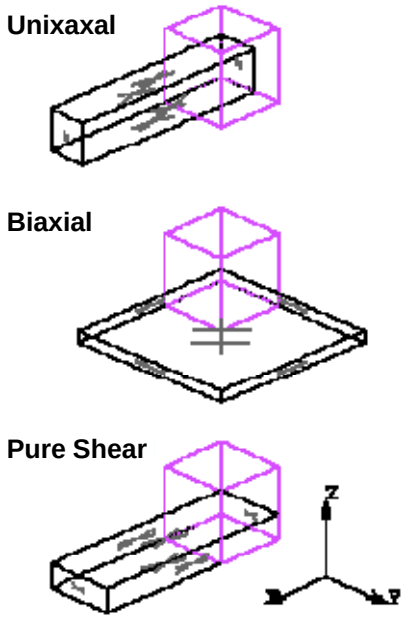
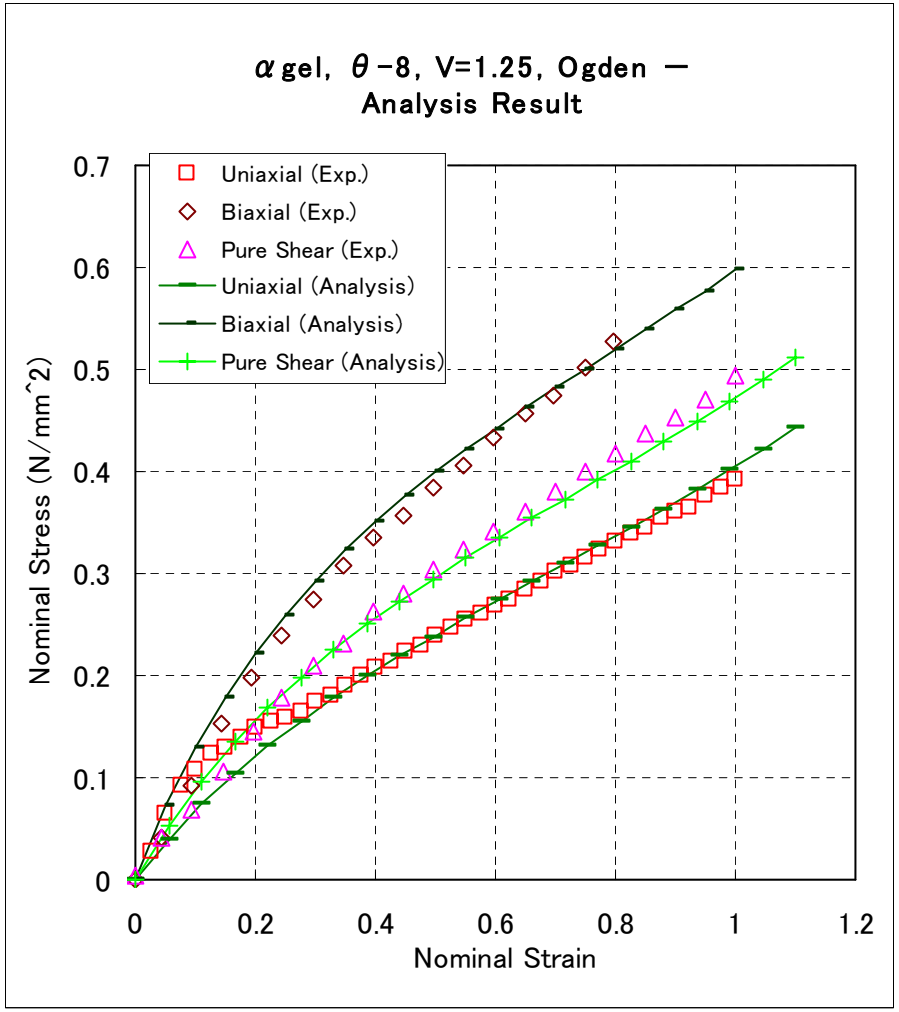
Input File: gel8_v125_marc_o.dat



Analysis model



Analysis Result:
Stress-strain relationship