NEW DEVELOPMENTS WITH SANS 1058

CONCRETE BLOCK PAVING

ROAD PAVEMENTS FORUM 8 MAY 2012

Presented by John Cairns

JC PAVING CONSULTING

Critical considerations

Old SABS 1058

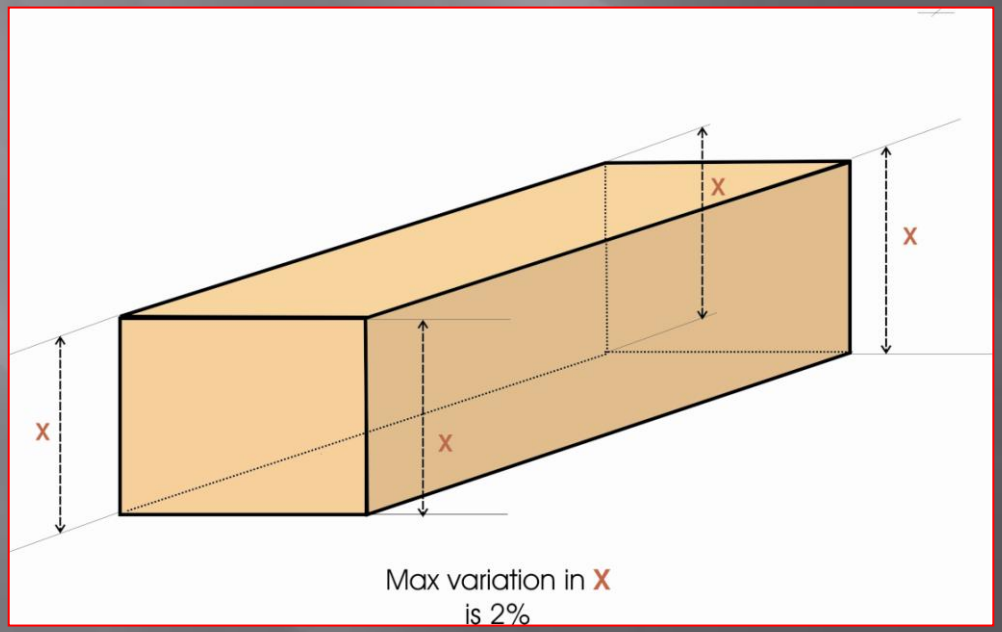
- Dimensions
- Strength – Compressive

New SANS 1058

- Dimensions
- Strength – Tensile Splitting
- Abrasion
- Water Absorption

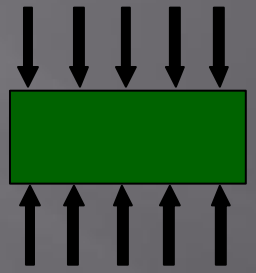
Critical dimensions

Length	± 2mm
Width	± 2mm
Thickness	± 3mm

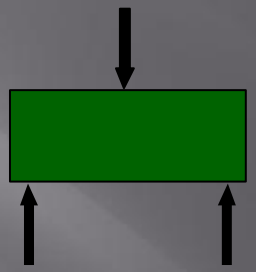


Strength testing

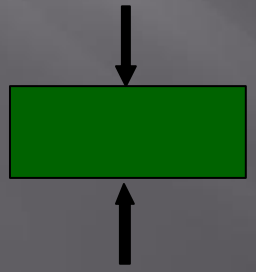
A compressive test



A flexural strength test

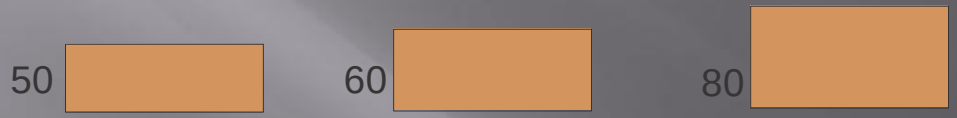


A tensile splitting test

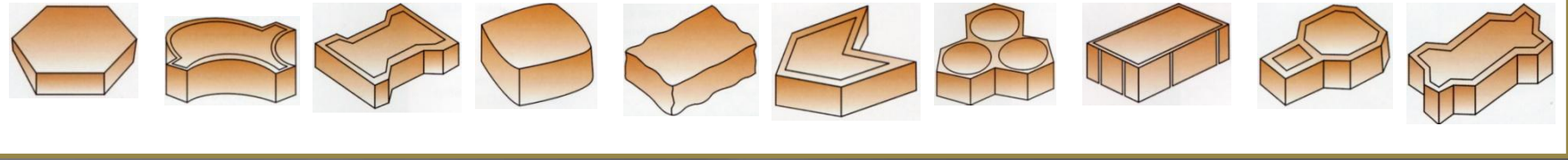


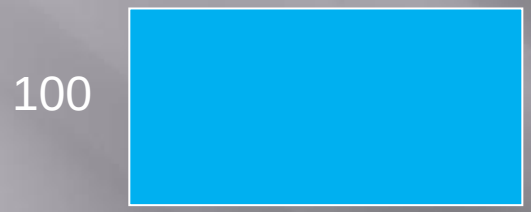
Compressive strength

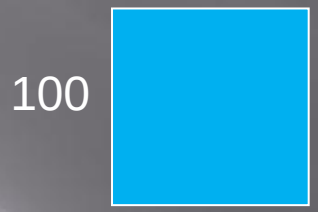
Elevation



Plan





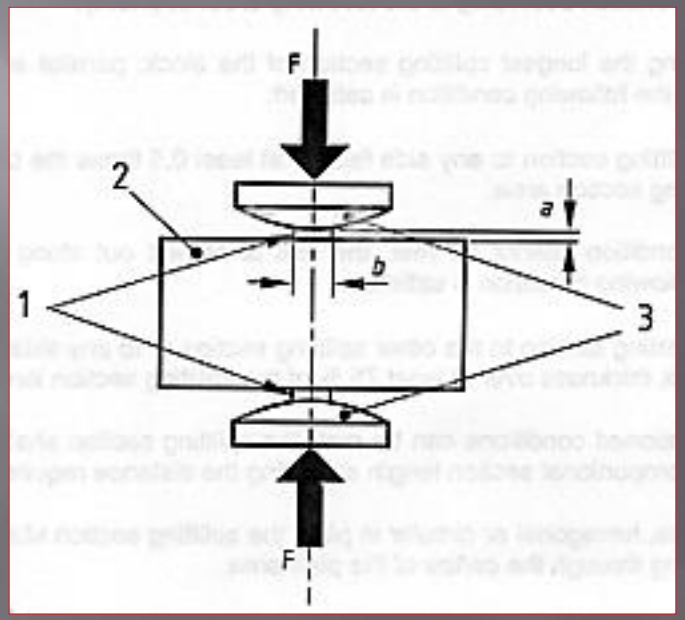


30MPa

18MPa

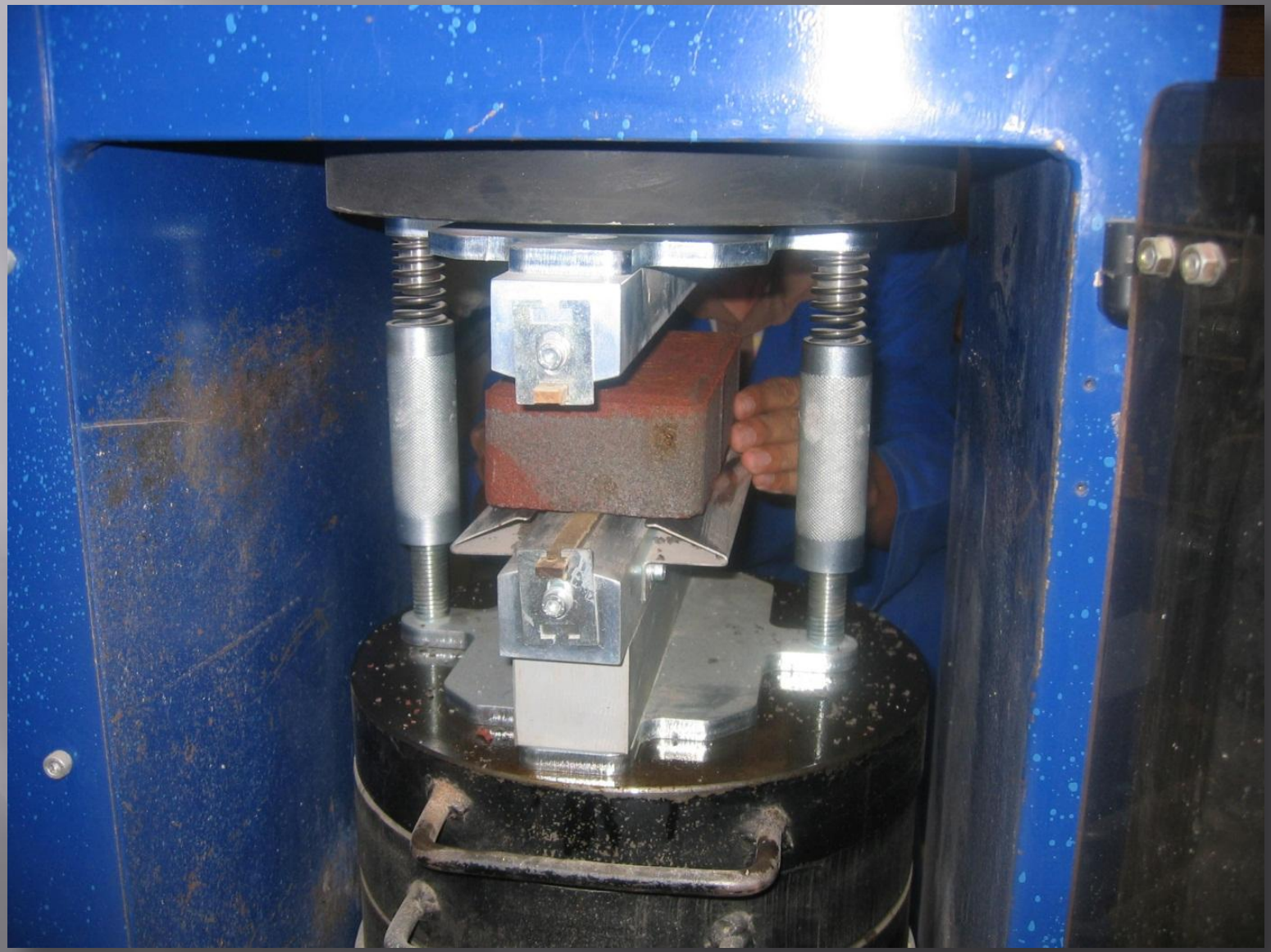
60%

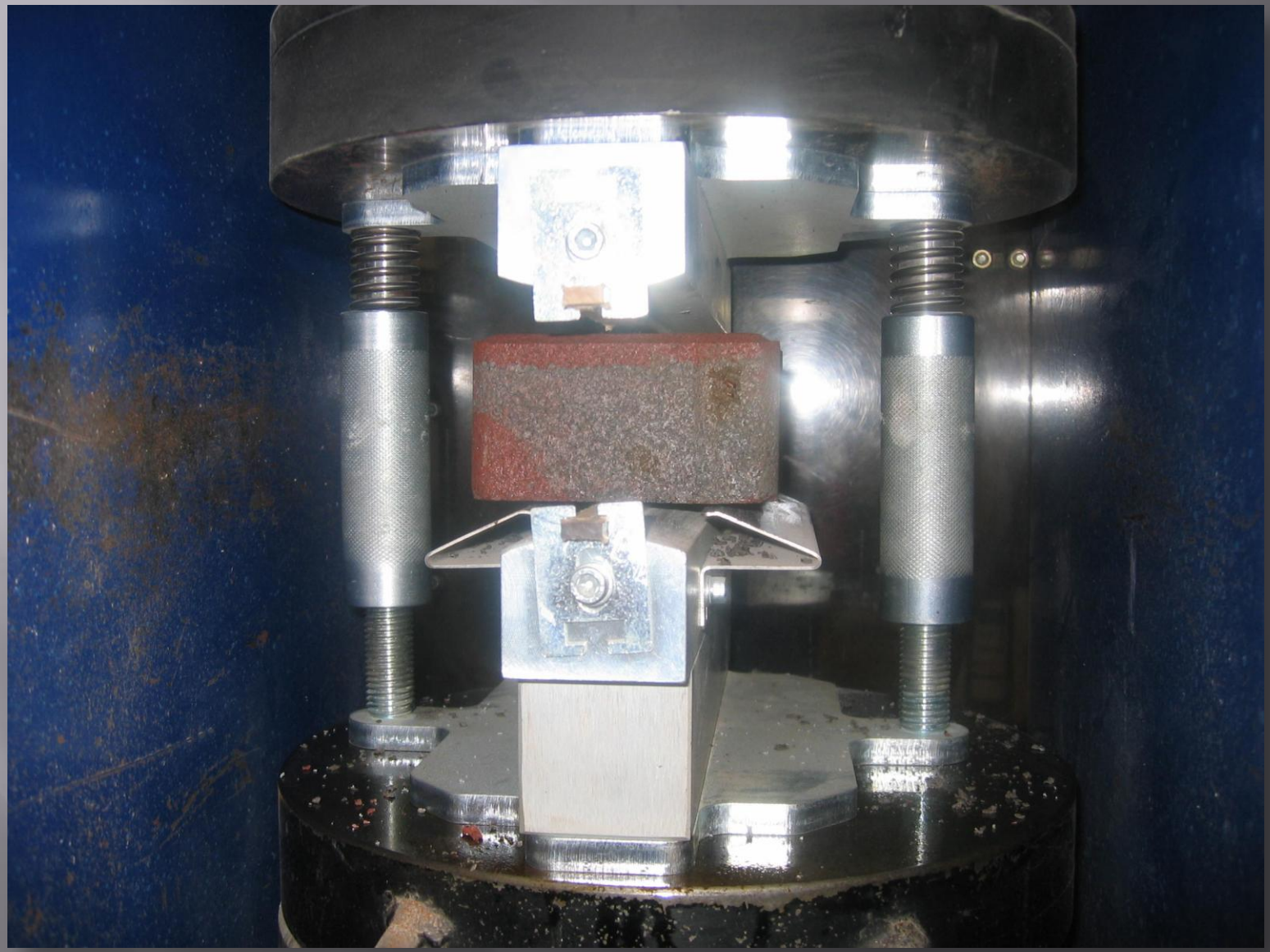
Tensile splitting



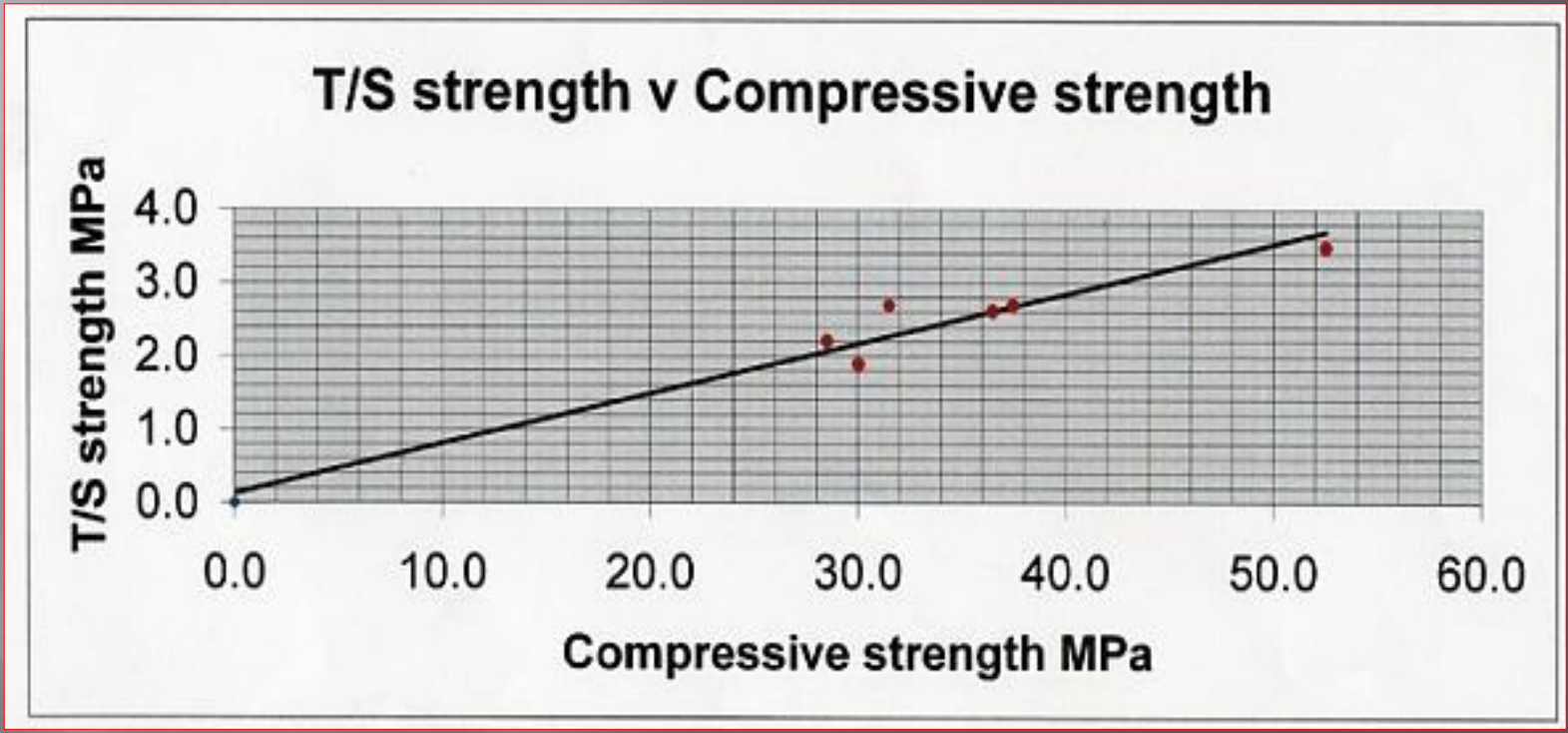
$$T = 0{,}637 \times k \times \frac{P}{S}$$

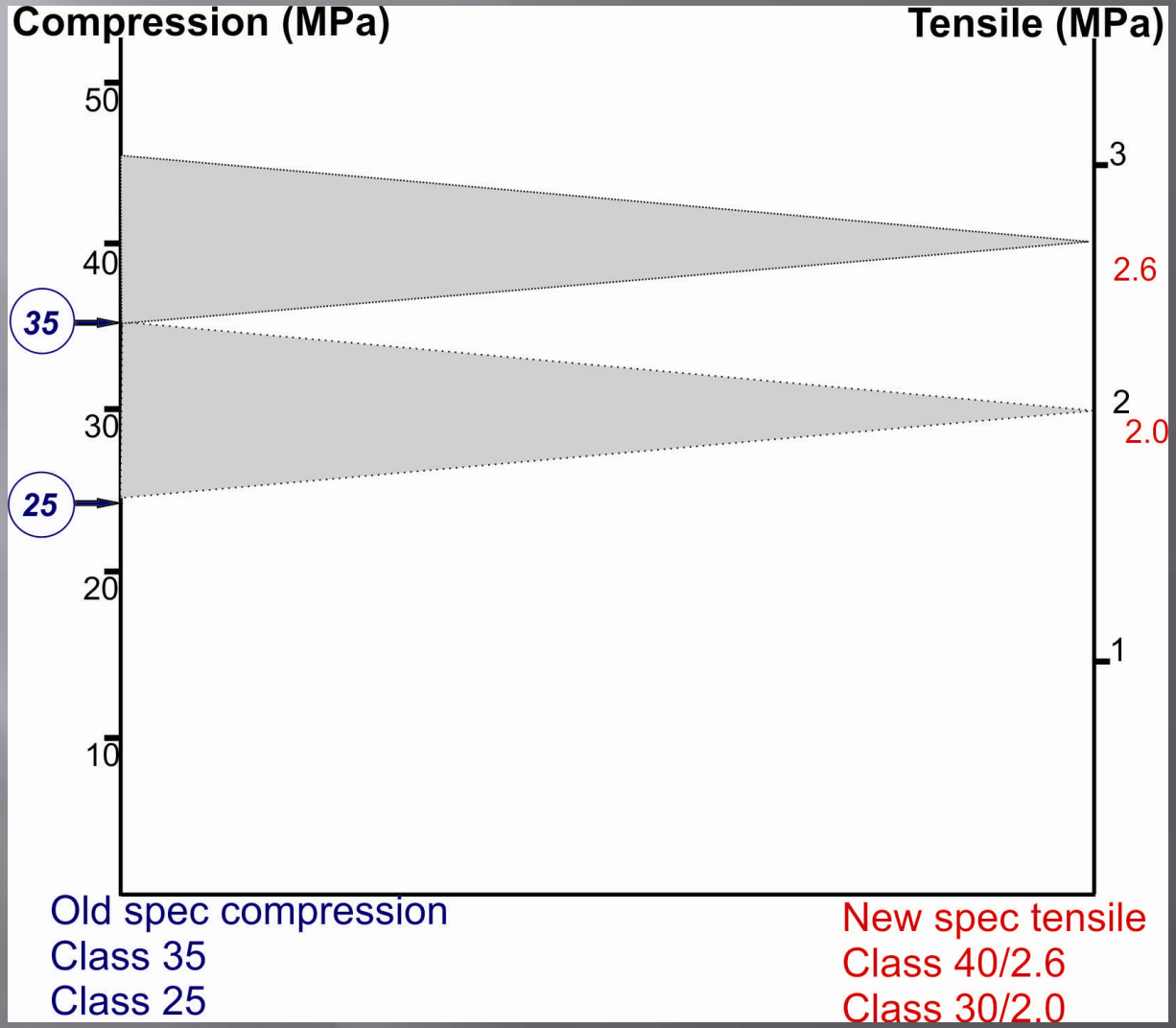
t (mm)	40	50	60	70	80	90	100
k	0,71	0,79	0,87	0,94	1,00	1,06	1,11



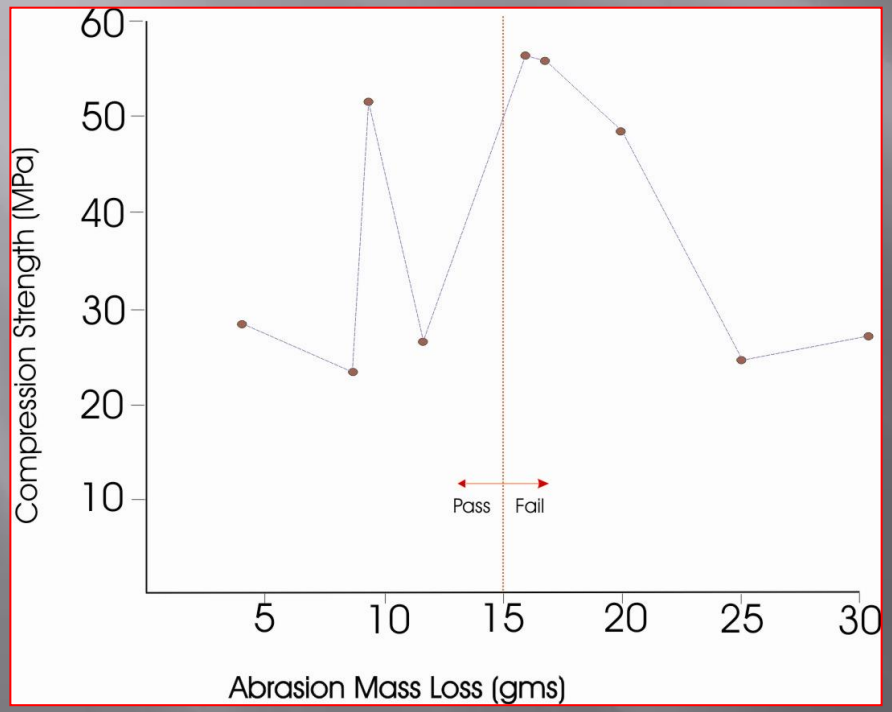


Tensile splitting




Compression (MPa)
Tensile (MPa)
50
40
35
30
25
20
10
3
2.6
2
2.0
1
Old spec compression
Class 35
Class 25
New spec tensile
Class 40/2.6
Class 30/2.0

Comparison of compressive strength with abrasion resistance

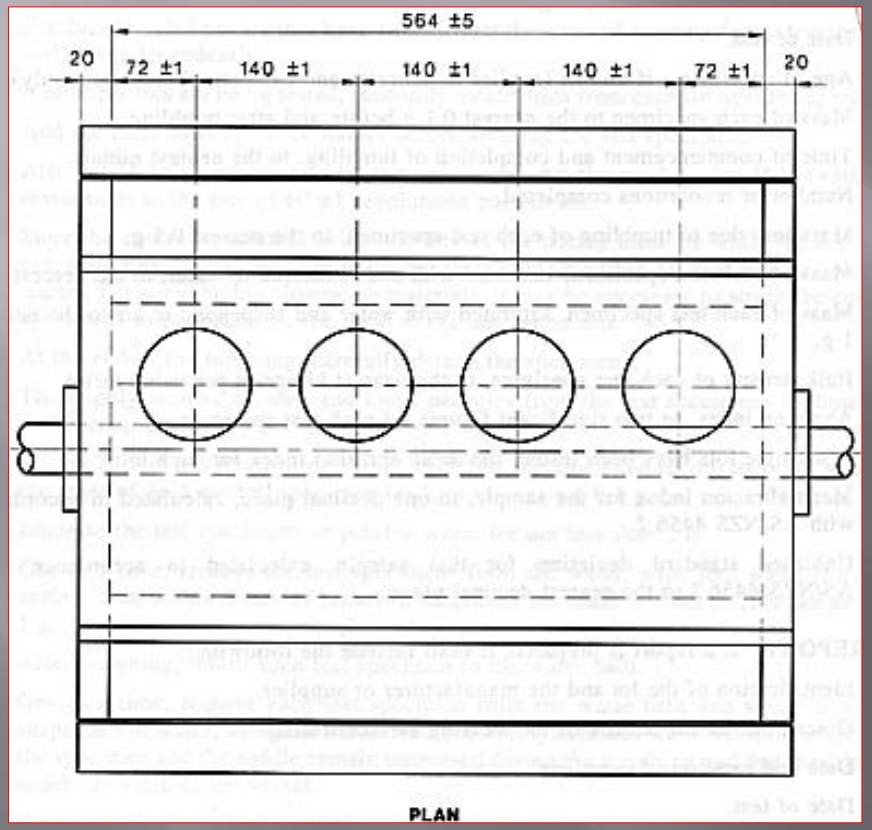


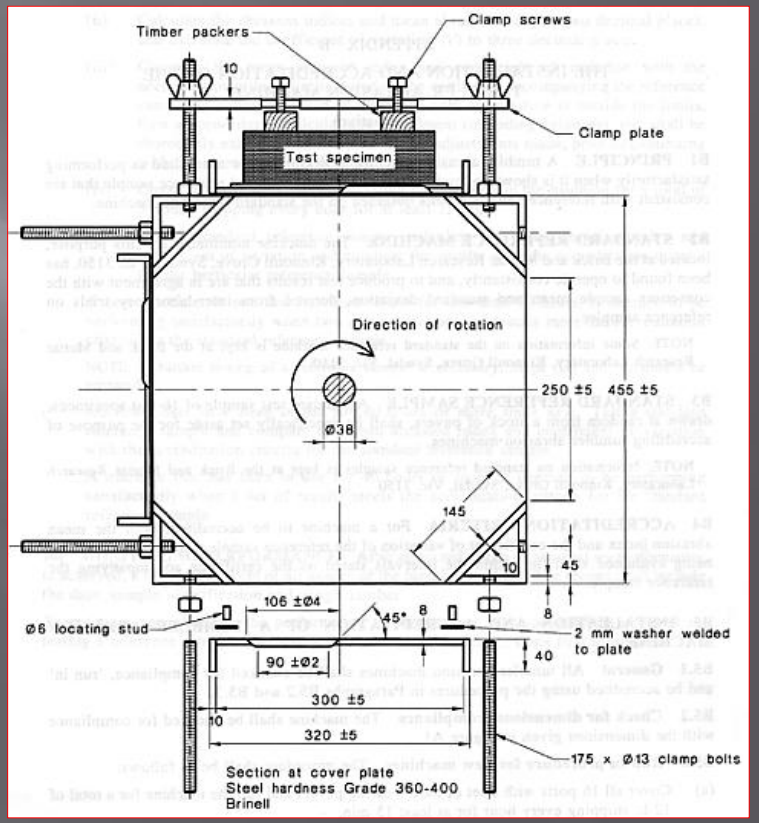
Sample	Comparison Strength MPa	Abrasion Mass Loss Grammes
1	23.5	8
2	24,0	25
3	51,0	9
4	49,5	20
5	27,5	12
6	57,0	16
7	29,0	4
8	28,0	31
9	57,5	17

Abrasion resistance tests

- Wire Brush
- Ball Bearing MA20
- Sand Blasting
- Bőhme
- Wide Wheel
- Ball Bearing AS/NZS445.9

Abrasion testing machine






4
3
2
1

Australia Standard

Abrasive Index 4,0 7,0

South Africa Standard

Mass Loss 15 grammes (Average)
20 grammes (Max.)

Water absorption

- Salt Attack
- Discolouration

Water absorption

Average	< 6,5%
Individual	< 8,0%


Thank you