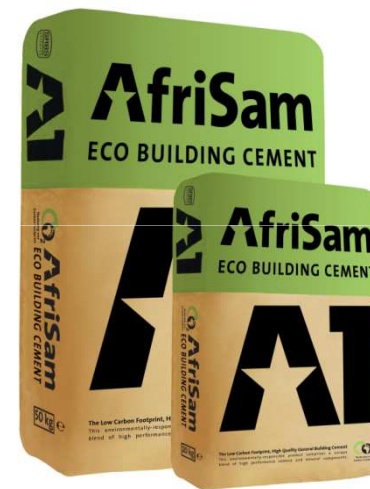


# New Specification for Cement Extenders

M Mc Donald

10 November 2010



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**AfriSam**

# New Specification for Cement Extenders

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**Why new specifications ?**

Allow use of commonly available materials

Modern statistical quality control requirements

Align with international standards

# New Specification for Cement Extenders

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Allow use of commonly available materials



**New  
Materials**

**???**

# New Specification for Cement Extenders

Modern statistical quality control requirements



san  
spe

## Statistical conformity criteria

single result limit value

value of a mechanical, physical or chemical property

continuous period of manufacture control

specified characteristic value

characteristic value of a chemical or physical property

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# **SANS 1491**

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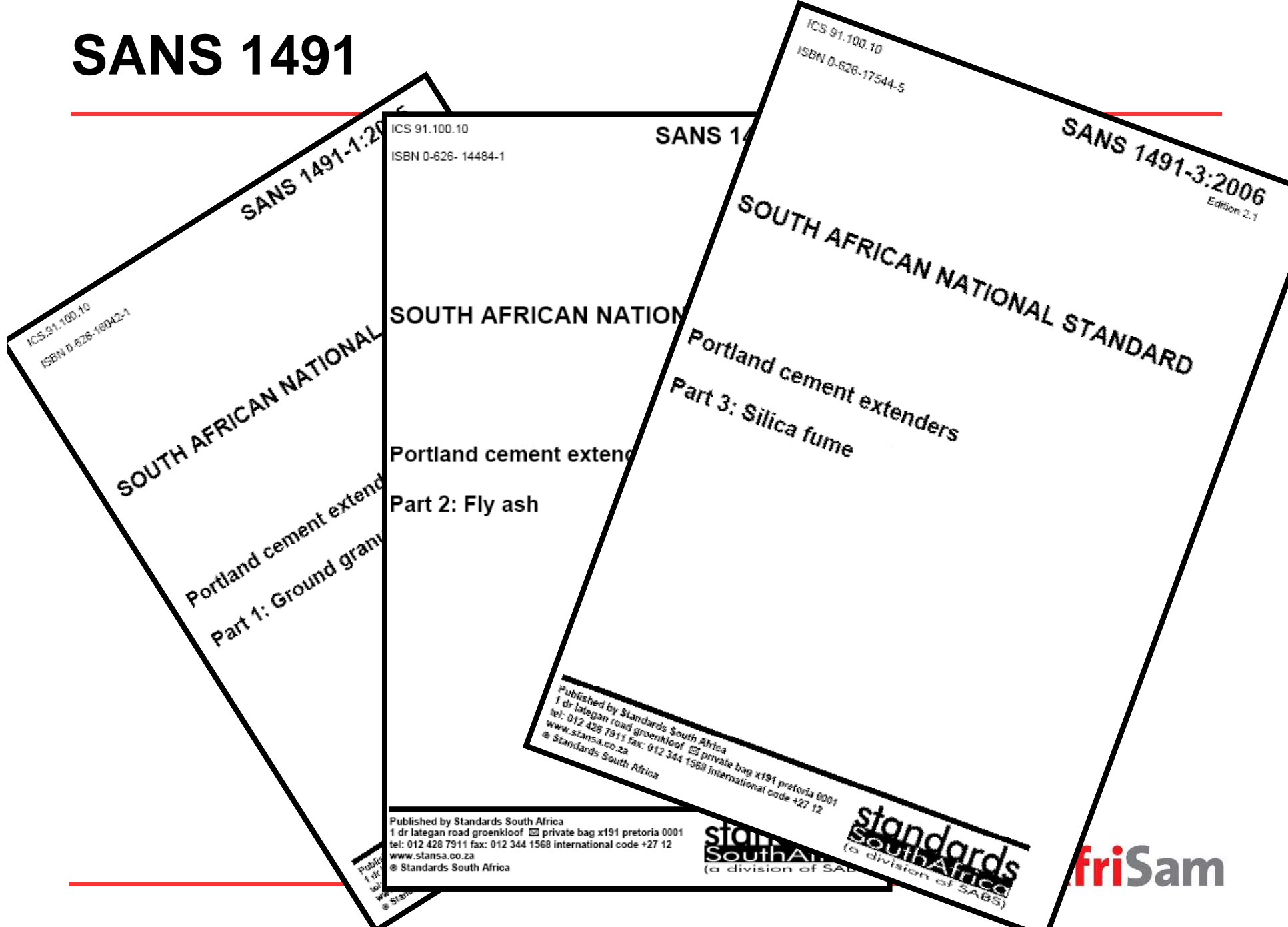
## **Portland cement extenders**

**Part 1: Ground granulated blast-furnace slag**

**Part 2: Fly ash**

**Part 3: Silica fume**

# SANS 1491



# SANS 1491

ICS:91.100.10  
ISBN 0-626-18042-1

**SANS 1491-1:2005**  
Edition 2

**SOUTH AFRICAN NATIONAL STANDARD**

Portland cement extenders  
Part 1: Ground granulated blast-furnace slag

standards  
South Africa  
(a division of SABS)

Published by Standards South Africa  
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# SANS 1491-1 to SANS 55167-1 & -2

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NORME EUROPÉENNE  
EUROPAISCHE NORM  
**EN 15167-1**  
August 2006

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

ICS 91.100.15; 01.040.91

English Version

Ground granulated blast furnace slag for use in concrete, mortar and grout - Part 1: Definitions, specifications and conformity criteria

EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG  
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Part 2: Fly ash

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**SANS 1491-2:2005**  
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**EN 450-1**

February 2005

Supersedes EN 450:1994

English version  
**Fly ash for concrete - Part 1: Definition, specifications and conformity criteria**



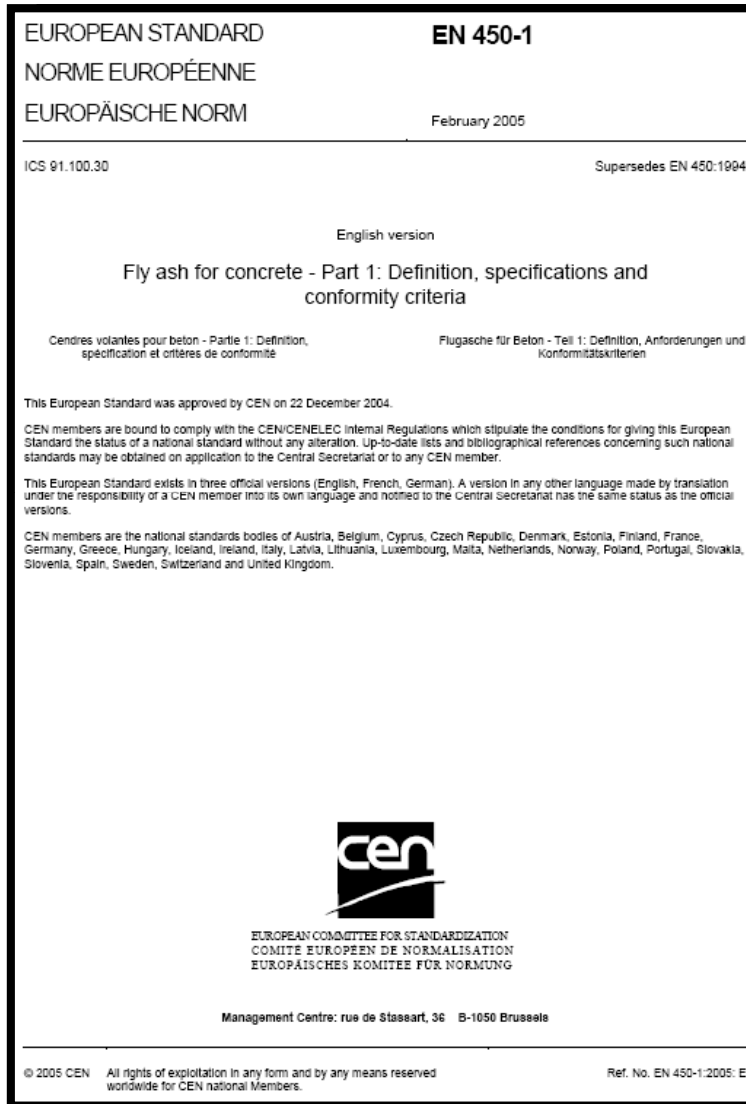
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# SANS 1491-2 to SANS 50450



- **Fineness**

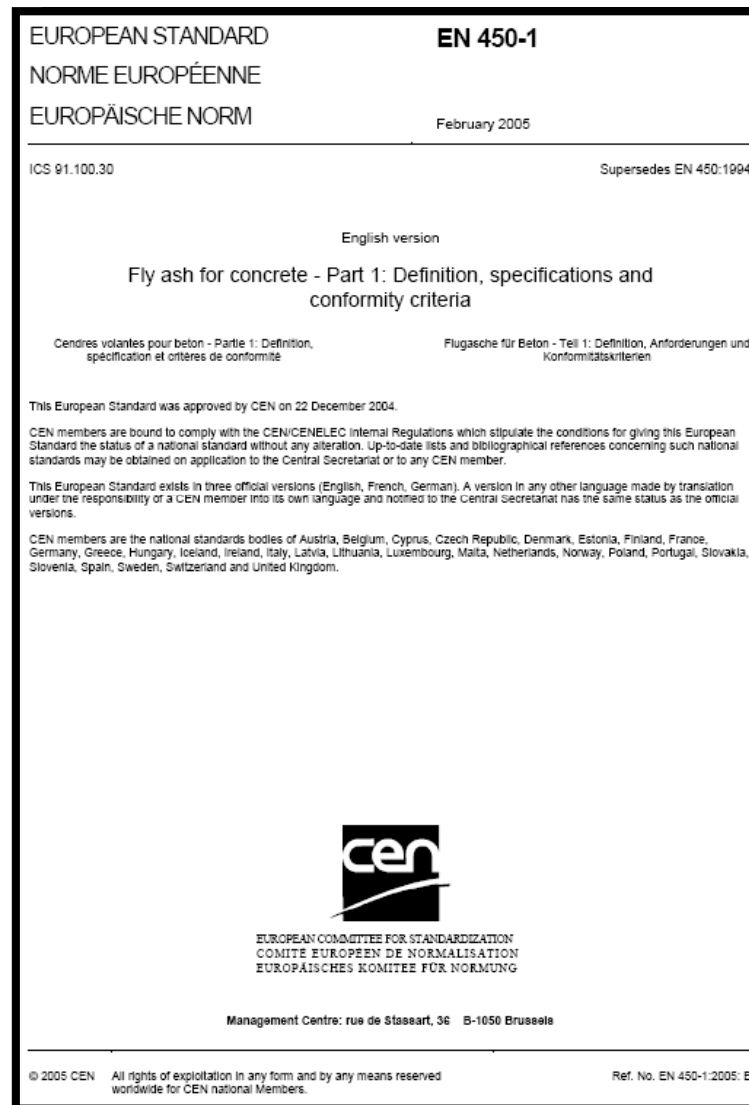
- **Category N:**

The retained residue on a 45um screen shall not exceed 40 % by mass,

- **Category S:**

The retained residue on a 45um screen shall not exceed 12 % by mass.

# SANS 1491-2 to SANS 50450



- **Loss on ignition**

- **Category A:**

Not greater than 5,0 %  
by mass

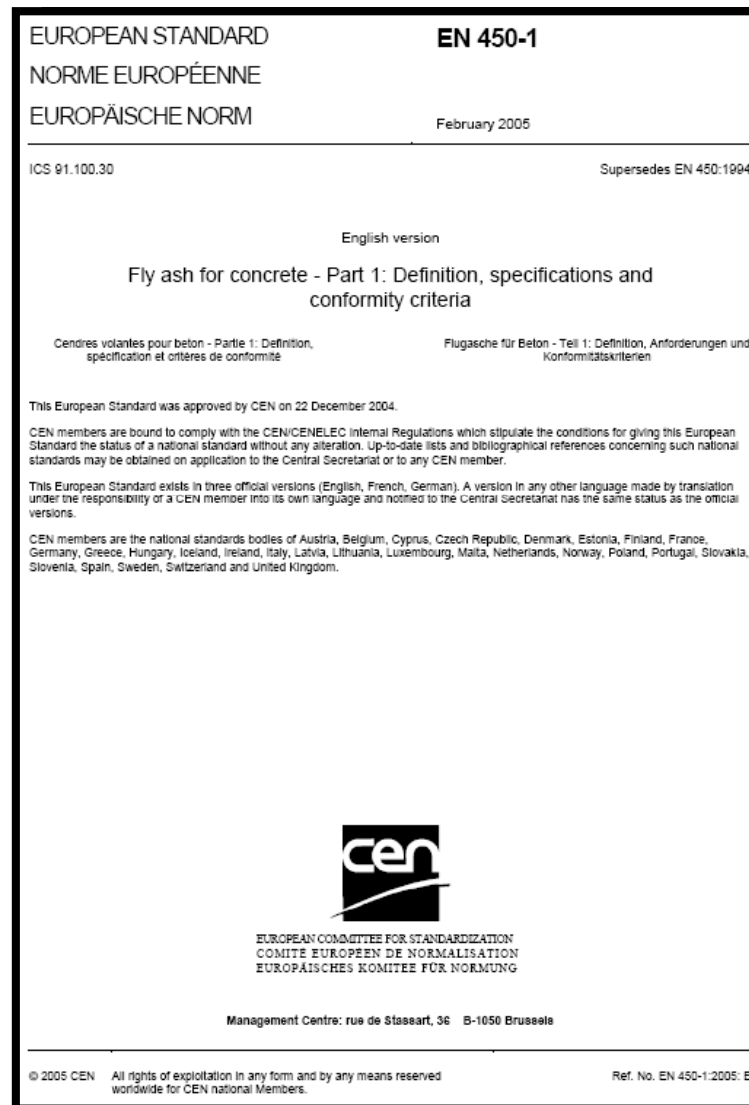
- **Category B:**

Between 2,0 % and 7,0  
% by mass

- **Category C:**

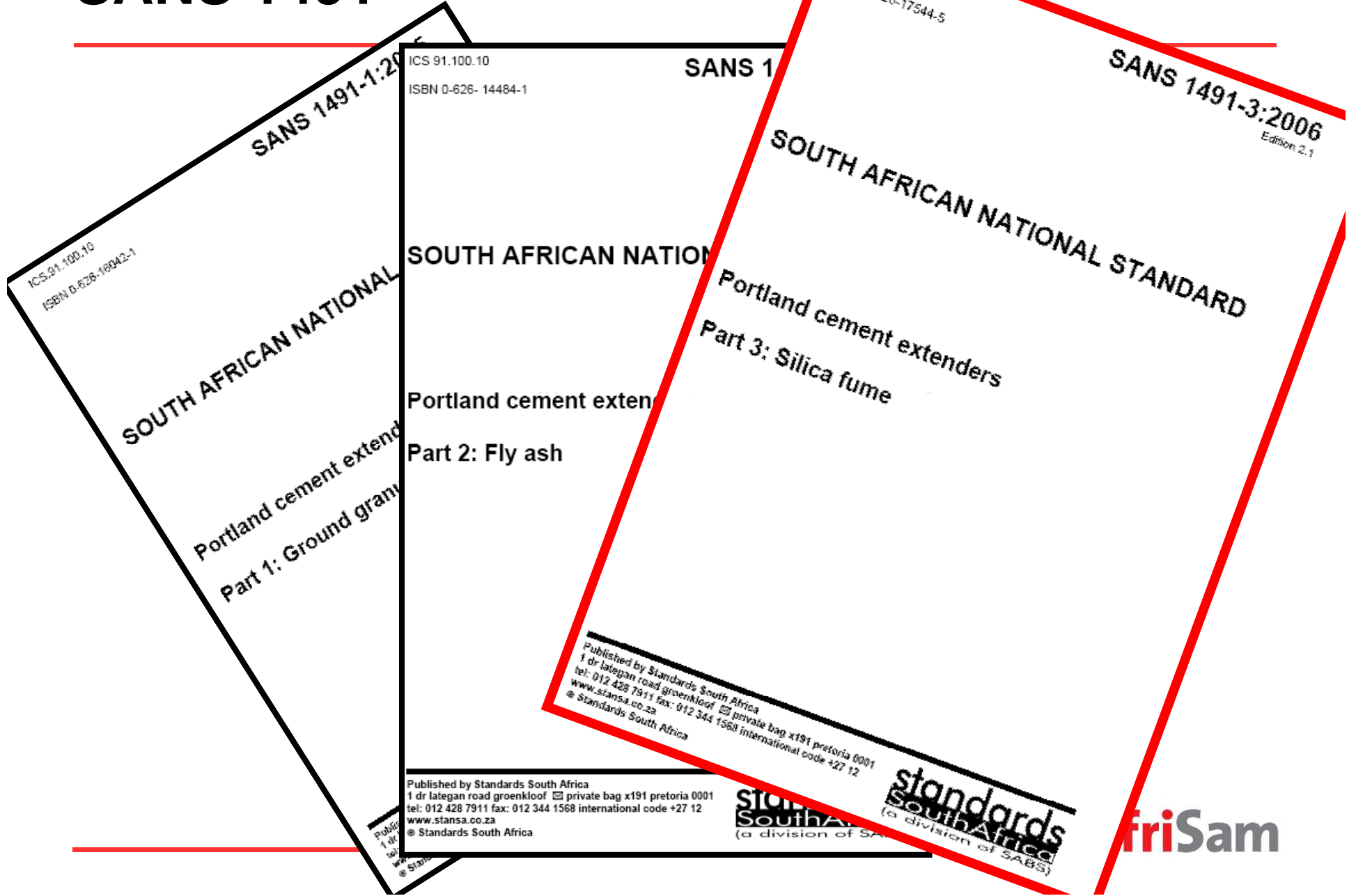
Between 4,0 % and 9,0  
% by mass

# SANS 1491-2 to SANS 50450



- **Coal Co-combustion**
- Vegetable material like wood chips, straw, olive shells and other vegetable fibres
- Green wood and cultivated biomass
- Animal meal
- Municipal sewage sludge
- Paper sludge
- Petroleum coke
- Virtually ash free liquid and gaseous fuels

# SANS 1491



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# SANS 1491-3 to SANS 53263

ICS 91.100.10  
ISBN 0-626-17544-5

**SANS 1491-3:2006**  
Edition 2:1

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 13263-1**

June 2005

English version  
**Silica fume for concrete - Part 1: Definitions, requirements and conformity criteria**

**cen**  
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COMITÉ EUROPÉEN DE NORMALISATION  
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# SANS 1491-3 to SANS 53263



## ● EN 934

The mortar containing silica fume shall be mixed with an amount of superplasticizer *conforming to EN 934-2* - so that the mortar has a consistency equivalent to the reference mortar



# SANS 1491

ISBN 978

SANS 1491-04:2010

Edition 1

## SOUTH AFRICAN NATIONAL STANDARD

Other supplementary cementitious materials  
for use in concrete, mortar and grout

Part A: Definitions, specifications and  
conformity criteria

Published by SABS Standards Division  
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Tel: +27 12 428 7011 Fax: +27 12 344 1969  
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## Part 4

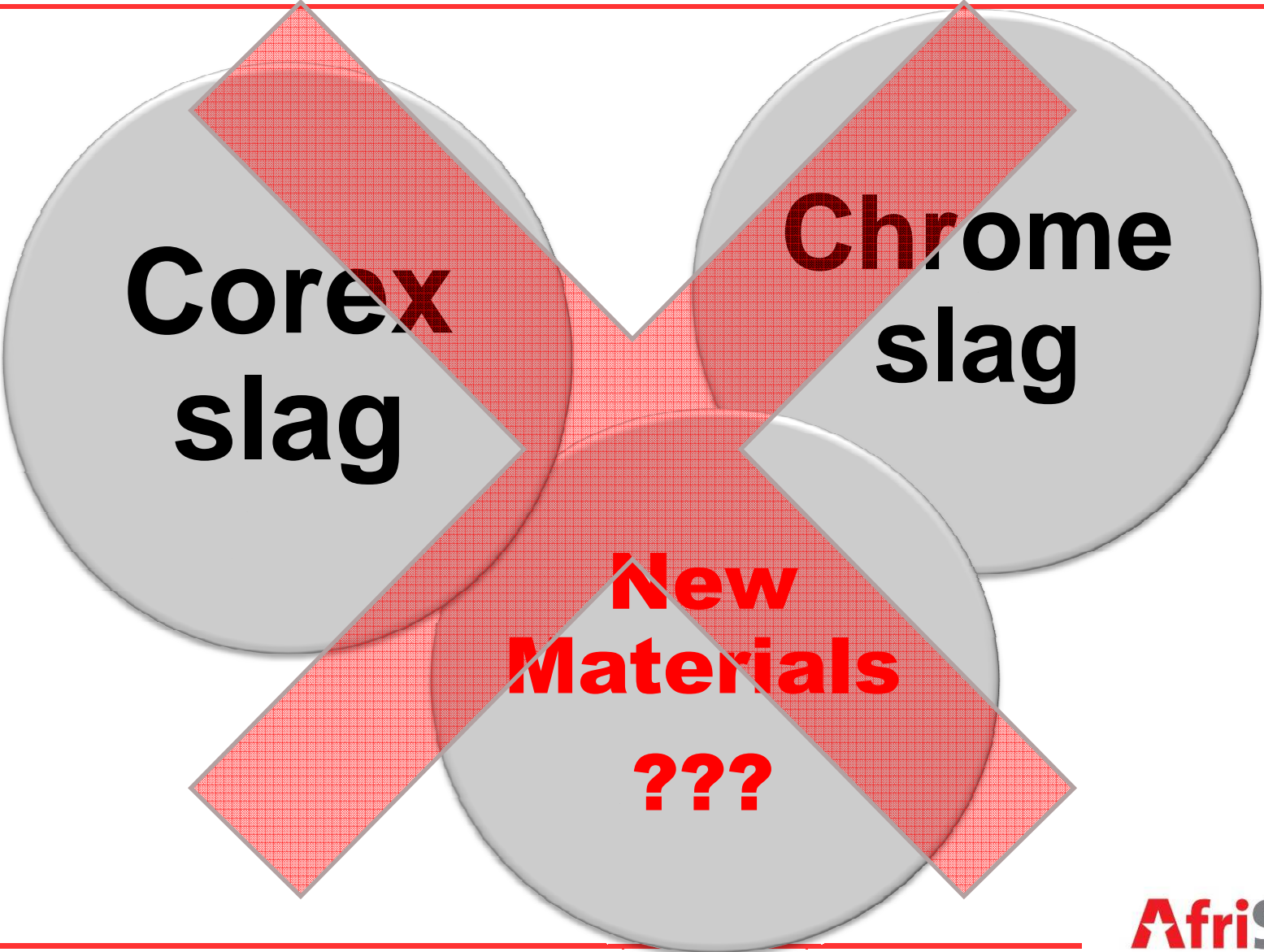
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# Granulated Blastfurnace Slag

vitriified material made by rapid cooling of a slag melt of suitable composition, obtained by ***smelting iron ore in a blastfurnace***, consisting of at least two thirds by mass of glassy slag and possessing hydraulic properties when suitably activated

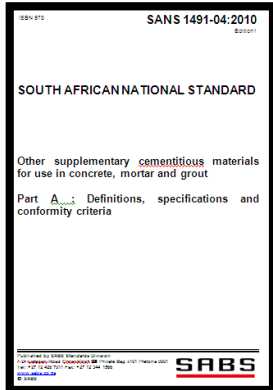
# Part 4

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# Part 4

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## Include a new Part 4 for all supplementary materials not covered

- Other metallurgical slag
- Other combustion ash
- Other ultra-fine super-pozzolans

# SANS 1491

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- Registration of project proposal for evaluation
- Project Approved
- Circulation of Committee draft for comment
- Decision to return to drafting phase
  
- Circulation for formal approval (DSS for 60 days or 30 days for ISO adoption)
- Close of approval period (after 30 days or 60 days)
- Standard published

