



ROAD PAVEMENTS
FORUM

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SANS3001-GR30

To Crush or Not To Crush....That is the Question



Borrow Pit / Quarry INVESTIGATIONS

- Can the material be utilised?
- Can it be crushed, to be approved as a viable source,

TO MEET SPECIFICATIONS

e.g. CBR, UCS, ITS

LABORATORY TESTS, EASY RIGHT

NOT SO SIMPLE



SANS 3001-GR30

DETERMINATION OF THE MAXIMUM DRY DENSITY AND OPTIMUM
MOISTURE CONTENT

SAMPLE PREPARATION

SCALPING and **CRUSHING**

DEFINITIONS

SCALPING

removal of larger material from the sample retained on a particular sieve

CRUSHING

breaking large particles into smaller particles

SCALPING IN BOTH 2015 AND 2024

CLAUSE 5.2.1.2 - 2015

Scalping method

- Weigh the field sample, record the mass (*MFS*) to the nearest kilogram and scalp on the 37,5 mm sieve.
- Weigh the material retained on the 37,5 mm sieve, record the mass (*MFSR*), to the nearest kilogram, and discard the scalped material.

CLAUSE 5.2.1.2 - 2024

Scalping method

- Weigh the field sample, record the mass (*MFS*) to the nearest kilogram and scalp on the 37,5 mm sieve.
- Weigh the material retained on the 37,5 mm sieve, record the mass (*MFSR*), to the nearest kilogram, and discard the scalped material.



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Is this a material we could use for a beautiful G5?



CRUSHING removed from 2024

CLAUSE 5.2.1.3 - 2015

Crushing method

- Screen the field sample on the 20 mm sieve.
- Remove the material retained on the sieve and crush so that all the material passes the 20 mm sieve.
- Recombine the crushed material with the rest of the field sample and mix thoroughly.
- Take care not to over-crush the material. Use the minimum effort to reduce the material so that it passes the 20 mm sieve.

CLAUSE 5.2.1.3 - 2024

Crushing method

Deleted by amendment No. 3.



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	SCALPED SAMPLE	CRUSHED SAMPLE
MDD (kg/m ³)	1942	1997
OMC (%)	13.5	11.7
CBR @ 95%	4	29



WHEN TO SCALP & WHEN TO CRUSH

CRUSH

- When investigating for a viable Quarry or Borrow Pit
- Assisting with compliance of a stockpile prior to final approval

SCALPING

- Approval of final product
- Approval of Layer Works

SCALPING and CRUSHING

Both are required in Industry To get to the final stage

- **Purchasing from quarries**
- **Approval of stockpiles processed by contractors**



To Crush or Not To Crush....

*That **was** the Question*

**MAYBE RE-INTRODUCE CRUSHING
IN THE SAMPLE PREPARATION?**