

























LAMPIRAN







No.	Gambar	No.	Gambar
1.		2.	
Ket.	Proses Pengeringan Ampas Tebu	Ket.	Proses Pengeringan Ampas Tebu
3.		4.	
Ket.	Ampas Tebu Kering Siap untuk dibakar	Ket.	Proses Pembakaran Ampas Tebu
5.		6.	
Ket.	Hasil Pembakaran Ampas Tebu	Ket.	Proses Pengayakan Kasar Abu Ampas Tebu

No.	Gambar	No.	Gambar
7.		8.	
Ket	Proses Pengayakan Halus Abu Ampas Tebu (Lolos Saringan No.100)	Ket	Abu Ampas Tebu yang akan digunakan
9.		10.	
Ket.	Semen PCC	Ket.	Agregat Halus
11.		12.	
Ket.	Agregat Kasar Uk. 10 – 20	Ket.	Agregat Kasar Uk. 5 – 10

No.	Gambar	No.	Gambar
13.		14.	
Ket.	Air Suling	Ket.	Sika Viscocrete 3115 – n
15.		16.	
Ket.	Pengujian Waktu Pengikatan	Ket.	Pemeriksaan Bahan Agregat Kasar
17.		18.	
Ket.	Pemeriksaan Bahan Agregat Kasar	Ket.	Pemeriksaan Bahan Agregat Kasar

No.	Gambar	No.	Gambar
19.		20.	
Ket	Pemeriksaan Bahan Agregat Kasar	Ket	Pemeriksaan Bahan Agregat Kasar
21.		22.	
Ket.	Pemeriksaan Bahan Agregat Kasar	Ket.	Pemeriksaan Bahan Agregat Kasar
23.		24.	
Ket.	Pemeriksaan Bahan Agregat Halus	Ket.	Pemeriksaan Bahan Agregat Halus

No.	Gambar	No.	Gambar
25.		26.	
Ket	Pemeriksaan Bahan Agregat Halus	Ket	Pengecoran
27.		28.	
Ket.	Pengecoran	Ket.	Pengecoran
29.		30.	
Ket.	Pengujian <i>Slump Flow</i>	Ket.	Pengujian <i>Slump Flow</i>

No.	Gambar	No.	Gambar
31.		32.	
Ket	Pencetakan Benda Uji	Ket	<i>Curing</i> Benda Uji
33.		34.	
Ket.	Pengujian Resapan Beton	Ket.	Pengujian Kuat Tekan Beton
35.		36.	
Ket.	Hasil Pengujian Kuat Tekan Beton	Ket.	Hasil Pengujian Kuat Tekan Beton



PROGRAM STUDI S1 TEKNIK SIPIL
FAKULTAS TEKNIK
UNIVERSITAS 17 AGUSTUS 1945 SURABAYA

Jl. Semolowaru No. 45, Surabaya 60118

Homepage : www.sipil.untag-sby.ac.id

Email : sipil@untag-sby.ac.id

Nomor : 523/K/TS/XI/2020
Lampiran : -
Perihal : Surat Permohonan
Kepada Yth. : Kepala Laboratorium Mineral dan Material Maju (Lab.Sentral)
FMIPA Universitas Negeri Malang
Malang

Dalam rangka penyusunan Tugas Akhir oleh mahasiswa/i Fakultas Teknik Universitas 17 Agustus 1945 Surabaya (UNTAG Surabaya) :

Nama : Billy Arrowrichta
NIM : 1431700019
No. Telp : 0896-7757-9283
Program Studi : Teknik Sipil
Judul Tugas Akhir : **Analisa Pengaruh Abu Ampas Tebu Sebagai Substitusi Parsial Semen Terhadap Waktu Pengikatan dan Kuat Tekan Beton Alir.**

Dengan ini kami mengajukan permohonan uji laboratorium, yaitu :

1. Pengujian XRF sebanyak 1 sampel.

Bersama surat ini, kami sampaikan pula permohonan keringanan biaya uji laboratorium atas nama mahasiswa/i tersebut. Demikian surat permohonan ini disampaikan. Atas perkenan dan kerjasamanya kami haturkan terima kasih.

Surabaya, 20 November 2020
Ka. Prodi Teknik Sipil,

Ir. Herry Widhiarto, M.Sc
NIP. 20430870113



UNIVERSITAS NEGERI MALANG
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
LABORATORIUM MINERAL DAN MATERIAL MAJU
(LABORATORIUM SENTRAL)

Jalan Semarang 5, Malang 65145
Telp. 0341-551312 (psw 200)/ 574895/ 085106001088
E-mail : laboratoriumsentralum@yahoo.co.id / lab.sentral@um.ac.id
Website : central-laboratory.um.ac.id



Komite Akreditasi Nasional
Laboratorium Penguji
LP-1398-IDN

Customers : Billy Arrowrichta – UNTAG Surabaya											
Contact Customer : 089677579283											
Email : billyarrowrichta@gmail.com											
Test Equipment : XRF											
Received Date : November 20, 2020											
Order Number : LSUM.P.01174.2020											
<u>OPERATOR, ANALYZER & SUPERVISOR</u>											
Analyzer : Mailinda Ayu Hana M, S.Si.											
Supervisor : Nandang Mufti, S.Si., M.T., Ph.D.											
<u>SAMPLE CODE</u>											
<table border="1"><thead><tr><th>No</th><th>Nama Sampel</th><th>Metode</th><th>Kode Sampel</th></tr></thead><tbody><tr><td>1</td><td>Abu Ampas Tebu</td><td>IK.M.E.1*</td><td>E1148</td></tr></tbody></table>				No	Nama Sampel	Metode	Kode Sampel	1	Abu Ampas Tebu	IK.M.E.1*	E1148
No	Nama Sampel	Metode	Kode Sampel								
1	Abu Ampas Tebu	IK.M.E.1*	E1148								
Hasil analisa hanya berlaku untuk sampel yang diuji.											
*Metode pengujian termasuk dalam ruang lingkup akreditasi.											



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E-mail : laboratoriumsentralum@yahoo.co.id / lab.sentral@um.ac.id
Website : central-laboratory.um.ac.id

LAPORAN HASIL UJI
LSUM.LHU.E.1261.2020

Customers : Billy Arrowrichta – UNTAG Surabaya
Contact Customer : 089677579283/ Email : billyarrowrichta@gmail.com
Methods : IKM.E.1
Test Equipment : XRF
Received Date : 20 November 2020
Order Number : LSUM.P.1174.2020

SPECIMEN DESCRIPTION

Condition of Samples : Sampel serbuk abu-abu dalam plastik klip
Sample Code : E 1148
Material Name : Abu ampas tebu
Measurement time : 24 November 2020

OPERATOR, ANALYZER & SUPERVISOR

Analyzer : Mailinda A.H., S.Si
Supervisor : Nandang Mufti, S.Si, M.T, Ph.D

RESULTS

Remark:

Compound	Compound
Si*	SiO ₂
P	P ₂ O ₅
S	SO ₃
K	K ₂ O
Ca*	CaO
Ti*	TiO ₂
Mn	MnO
Fe	Fe ₂ O ₃
Cu	CuO
Zn	ZnO
Rb	Rb ₂ O
Mo	MoO ₃
Ba	BaO
Eu	Eu ₂ O ₃
Re	Re ₂ O ₇

-Hasil pengujian juga diminta dalam bentuk unsur dan oksida

-Hasil analisa hanya berlaku untuk sampel yang diuji.

*Dibawah parameter terakreditasi.

Mengetahui,
Manajer Teknis

Dra. Surjani Wonorahardjo, Ph.D.
NIP.196605281991032001

Malang, 25 November 2020

Menyetujui

dan Dekan

Kepala Lab. Mineral dan Material Maju FMIPA UM

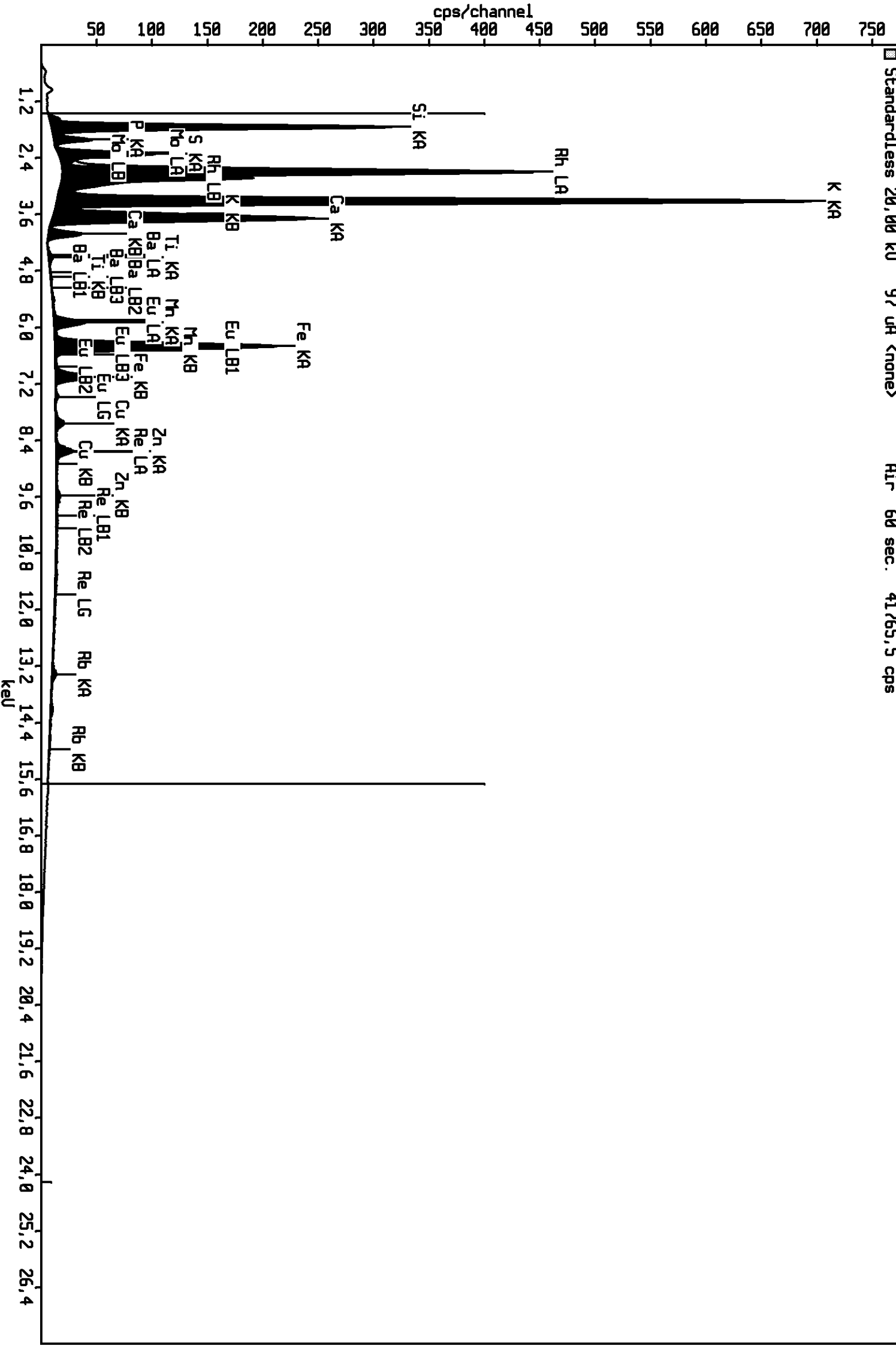


Nandang Mufti, S.Si, M.T, Ph.D
NIP. 197208152005011001

24-nov-2020 14:28:56 E 1148

Standardless 20,00 kV 97 uA <none>

Air 60 sec. 41765,5 cps



Sample ident
E 1148

Application	<Standardless>
Sequence	1 of 1
Measurement time	24-nov-2020 14:28:56
Position	5

Compound	SiO2	P2O5	SO3	K2O	CaO	TiO2	MnO	Fe2O3	CuO	ZnO	Rb2O	MoO3
Conc	59,3	4,4	5,5	19,4	7,39	0,086	0,31	2,14	0,066	0,12	0,11	1
Unit	%	%	%	%	%	%	%	%	%	%	%	%

Compound	BaO	Eu2O3	Re2O7
Conc	0,06	0,04	0,06
Unit	%	%	%

PRODUCT DATA SHEET

Sika® ViscoCrete®-3115 N

CONCRETE ADMIXTURE FOR HIGH FLOW / SELF-COMPACTING CONCRETE

DESCRIPTION

Sika® ViscoCrete®-3115 N is a third generation super-plasticiser for concrete and mortar. It is particularly developed for the production of high flow concrete with exceptional flow retention properties.

USES

Sika® ViscoCrete®-3115 N facilitates extreme water reduction, excellent flowability with optimal cohesion and strong self-compacting behaviour.

Sika® ViscoCrete®-3115 N is used for the following types of concrete :

- High flow concrete
- Self-compacting concrete (S.C.C.)
- Concrete with very high water reduction (up to 30%)
- High strength concrete
- Watertight concrete
- Pre-cast concrete

The combination of high water reduction , excellent flowability and high early strength provides clear benefits in the above mentioned applications.

CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-3115 N acts by surface adsorption on the cement particles producing a sterical separation effects. Concrete produced with Sika® ViscoCrete®-3115 N exhibits the following properties :

- Excellent flowability (resulting in highly reduced placing and compacting efforts)
- Strong self-compacting behaviour
- Extremely high water reduction (resulting in high density and strengths)
- Improved shrinkage and creep behaviour
- Increased carbonation resistance of the concrete
- Improved finish

Sika® ViscoCrete®-3115 N does not contain chlorides or other ingredients which promotes steel corrosion. Therefore, it may used without restriction for reinforced and pre-stressed concrete construction. Sika® ViscoCrete®-3115 N gives the concrete extended workability and depending on the mix design and the quality of materials used, self-compacting properties can be maintained for more than 1 hour at 30 °C.

PRODUCT INFORMATION

Chemical base	Aqueous solution of modified polycarboxylate copolymers	
Packaging	20 L jerrycan 200 L drum 1000 L tanks	
Appearance / Colour	Liquid / Turbid, Yellowish	
Shelf life	12 months from date of production when stored in original unopened packaging	
Storage conditions	Store in dry condition at temperature between +5 °C and +30 °C. Protect from direct sunlight and frost.	
Density	at +20 °C	1.05 ± 0.01 kg/L

TECHNICAL INFORMATION

Concreting Guidance

The standard rules of good concreting practice, concerning production and placing, are to be followed.
Laboratory trials before concreting on site are strongly recommended when using a new mix design or producing new concrete components. Fresh concrete must be cured properly and as early as possible.

APPLICATION INFORMATION

Recommended Dosage

For soft plastic concrete	0.3 – 0.8 % by weight of binder
For flowing and self compacting concrete (S.C.C.)	0.8 – 2.0 % by weight of binder

Compatibility

Sika® ViscoCrete®-3115 N may be combined with the following products:

- Plastiment® P121R
- Plastiment® VZ
- Sika® Fume
- SikaFibre®

Do not use viscocrete / viscoflow series combined with sikament series.

To produce flowing and / or self-compacting concrete, special concrete mix design is required.

Pre-trials are recommended and mandatory if combinations with the above products are required.

Please consult to our Technical Service Department.

APPLICATION INSTRUCTIONS

DISPENSING

Sika® ViscoCrete®-3115 N is added to the gauging water or simultaneously poured with it into the concrete mixer. For optimum utilisation of its high water reduction property, it is recommended to thoroughly mix the concrete at a minimal wet mixing time of 5 minutes.

The addition of the remaining gauging water (to fine tune concrete consistency) may only be started after two-thirds of the wet mixing time, to avoid surplus water in the concrete.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

PT. Sika Indonesia

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SikaViscoCrete-3115N_en_ID_(11-2016)_1_1.pdf

Product Data Sheet

Sika® ViscoCrete®-3115 N

November 2016, Version 01.01

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