

Lampiran-2 Penjelasan Teknis Tambahan

Jawaban dari pertanyaan pertanyaan dibawah ini :

1. Bisa diinfokan spesifikasi komposisi kimia dan hardness dari masing-masing produk?

Jawab: kami lampirkan katalog produk .

2. Apakah Jenis kawat las yang digunakan jenis SMAW/SAW/GTAW/FCAW (untuk material SI00012337 & SI00006235) ?

Jawab: SI00006235 adalah untuk pengelasan SMAW

3. Spesifikasi teknis dari kawat las yang dibutuhkan, karena pada material description yang tercantum hanya aplikasi "Built Up". Berhubung Variant Kawat las Built-up sangat banyak sekali,

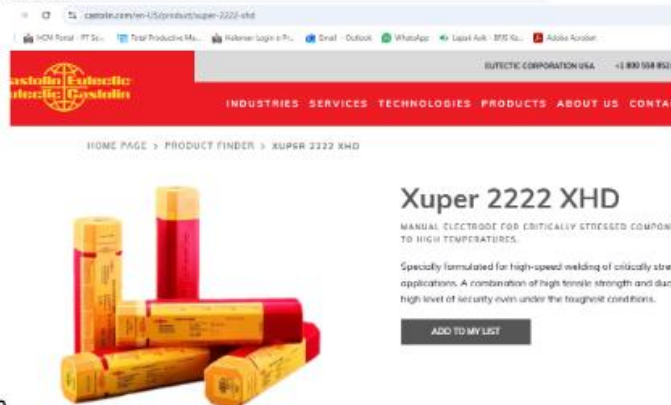
- a. mohon agar di informasikan secara spesifik standarisasi dari kawat las yang dibutuhkan ?

Jawab : SI00006235 ; ELECTRODE, 4MM; EUTECTIC CASTOLIN; XHD-2222

Typical Tensile Strength: 90,000 psi (620 N/mm2)

Typical Yield Strength: 65,000 psi (450 N/mm2)

Typical Elongation (1=5d) min.: 42%



Typical Hardness: BHN: 180

- b. Apakah kawat las Built-Up yang ditawarkan nantinya, harus compatible dengan Kawat Las Hard Facing yang akan digunakan oleh PT.Semen Padang atau Semen Indonesia (tuban) ?

Jawab : SI00006235 tidak diperlukan buffer layer maupun hardfacing.

- c. Jika compatible, boleh tolong diinformasikan jenis kawat las Hardfacing yang biasa digunakan oleh PT.Semen Padang dan Semen Indonesia (Tuban) untuk kedua material number ini ?

Jawab : SI00006235 tidak diperlukan buffer layer maupun hardfacing

4. Apakah kawat las ini digunakan untuk Repair & Maintenance atau Joining?

Jawab : ya, SI00006235 digunakan untuk repair & maintenance (crack) dan joining (pemasangan strongbar) khusus untuk crack pada Kiln TYRE dan supporting roll KILN TYRE

Apakah tender ini ada Maximal Waktu Pengiriman?dan berapa lama dari kontrak ditandatangani?

Jawab : mengikuti standart yang ada , mengingat weld rod ini produk import.

5. Jenis Kemasan yang dibutuhkan dan minimal kemasan yang ditawarkan (untuk material SI00012337 & SI00006235)

Jawab : kemasan SI00006235 5kg per pack

6. Sebelum proses built-up di lakukan,apakah ada penggunaan kawat las Buffer Layer, jika ada mohon di informasikan jenis kawat las yang biasa digunakan?

Jawab : SI00006235 tidak diperlukan buffer layer maupun hardfacing.



High Strength and Ductility
under Tough Conditions

Xuper[®] 2222 XHD



- For use with flame-hardening equipment
- Formulated for high speed welding of critically stressed applications
- Excellent for high temperature and sub-zero cryogenic applications

Xuper® 2222 XHD

Xuper 2222 XHD is a nickel-based electrode formulated for high-speed, high-deposition welding of critically stressed applications. Deposits exhibit superior crack resistance and ductility. This easily handled electrode is ideal for welding large cross sections in a variety of steels where cool-down stresses can be a problem. Xuper 2222 XHD maintains a high-tensile strength at high temperatures 1200°F (648°C) as well as in cryogenic applications.

TECHNICAL DATA

Typical Values

Tensile Strength:	90,000 psi (620 N/mm ²)
Yield Strength:	65,000 psi (450 N/mm ²)
Elongation (1=5d) min.:	42%
Hardness:	180 BHN

SUGGESTED WELDING PARAMETERS:

Diameter	Amperage
3/32" (2.4mm)	80 - 120
1/8" (3.2mm)	110 - 160
5/32" (4.0mm)	150 - 190

Note: When welding with Xuper 2222 XHD make sure to remove ALL sources of sulfur, often an ingredient in both oils and greases.

PROCEDURE FOR USE

PREPARATION: Remove all contaminants, particularly oil and grease. Lightly grind surface to remove superficial oxides. Preheating is not necessary unless the part has a large cross-section or has high air hardenability. In these situations preheating within a range of 250°-300°F (121°-149°C) is advised.

TECHNIQUE: Always use the lowest practical amperage range to minimize dilution. Use a medium-to-short arc length and stringer-beads. Terminate welds either on endblocks and back-whip or use a "side-up technique". Adopt a balanced welding sequence to minimize base metal overheating. De-slag thoroughly.

POST-WELDING: For air-hardening steels, slow cool using available insulating materials. For less-sensitive metals, slow cool out of drafts.

TYPICAL APPLICATIONS

APPLICATIONS	INDUSTRY
• Heat-Treating Trays & Baskets	Forging
• Ingot Tongs	Iron and Steel Works
• Continuous Casting Molds	Foundry
• Merchant Mill Roll Guides	Iron and Steel Works
• LNG Pro. Pumps Liquefied	Natural Gas Plants

Observe normal welding practices, respiratory protection and proper air flow pattern advised. For general welding practices, see AWS publications Z49.1 "Safety in Welding and Cutting and Allied Process". Welding is a completely safe process when performed in accordance with proper safety measures. Become familiar with local safety regulations before beginning welding operations. DO NOT operate welding equipment or use welding materials before you have thoroughly read the proper instruction manual(s). Please refer to the Eutectic internet site for Material Safety Data Sheet (MSDS) information. DISREGARDING THESE INSTRUCTIONS, AND/OR THE INSTRUCTIONS OF WELDING EQUIPMENT OR MATERIAL MANUALS, MAY BE HAZARDOUS TO YOUR HEALTH.

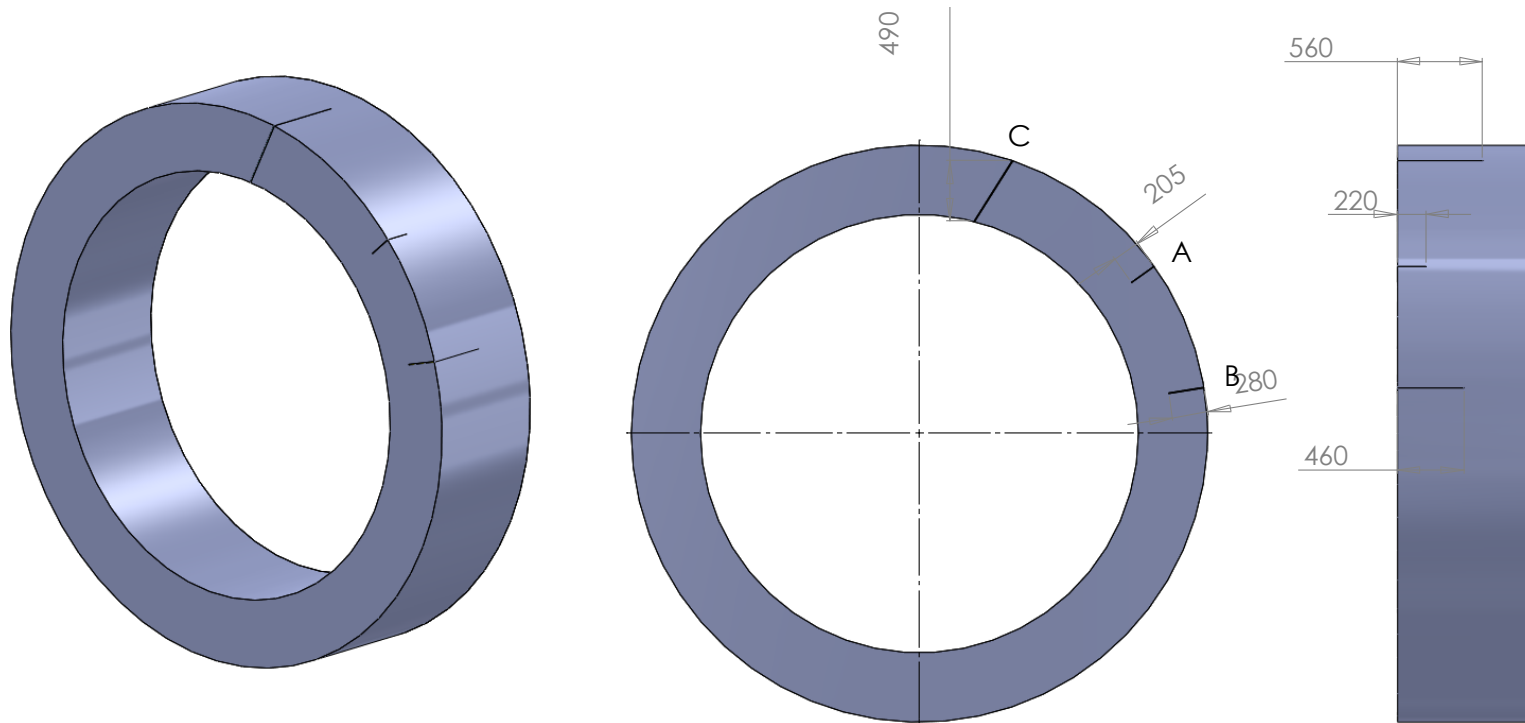


TUBAN GRESIK



**CRACKED TYRES KILN II TYRE II, KILN III
TYRE II**

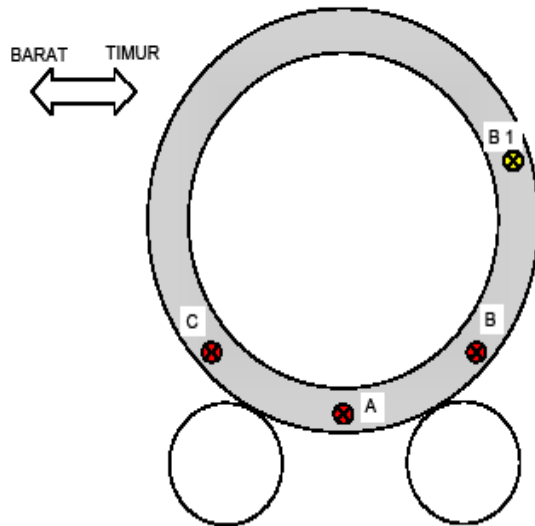
The cracks at kiln II, tyre II



DRAWING NO.	CRACKS KILN II, TYRE II
DATE	16. DECEMBER 2010
AUTHOR	CHRIS PEDERSEN - PSM

The cracks at kiln II, tyre II

SKETSA POINT PENGUKURAN NDT TIRE 2 - 442KL1



SERIOUS

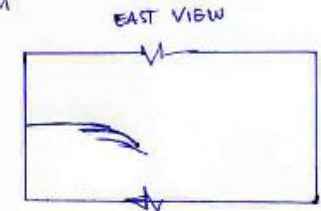
SERIOUS

Might be
layer
separation in
the material

SERIOUS

THICKNESS 490 mm

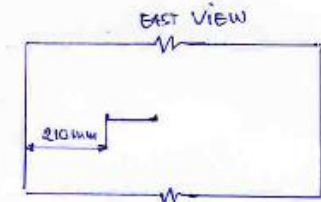
A. Depth = 205 mm
Length = 320 mm



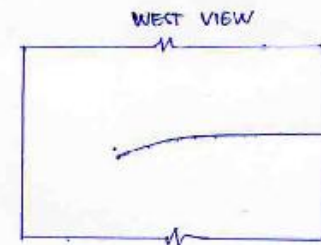
B. Depth = 280 mm
Length = 460 mm



B1 Depth = 156 mm
Length = 90 mm
FROM y = 210 mm



C. Depth = 490 mm/
Length = 560 mm



The cracks at kiln III, tyre II



No UT yet, no strong bars added.

The potential risk is very high!

CAUSES FOR CRACKS IN TYRES



- Fatigue
 - Stress
 - Temperature
 - Vibration
 - Load etc.
- Kiln crank
- Material defect
- Environment – weather
- A combination of the above mentioned points

What is the next step

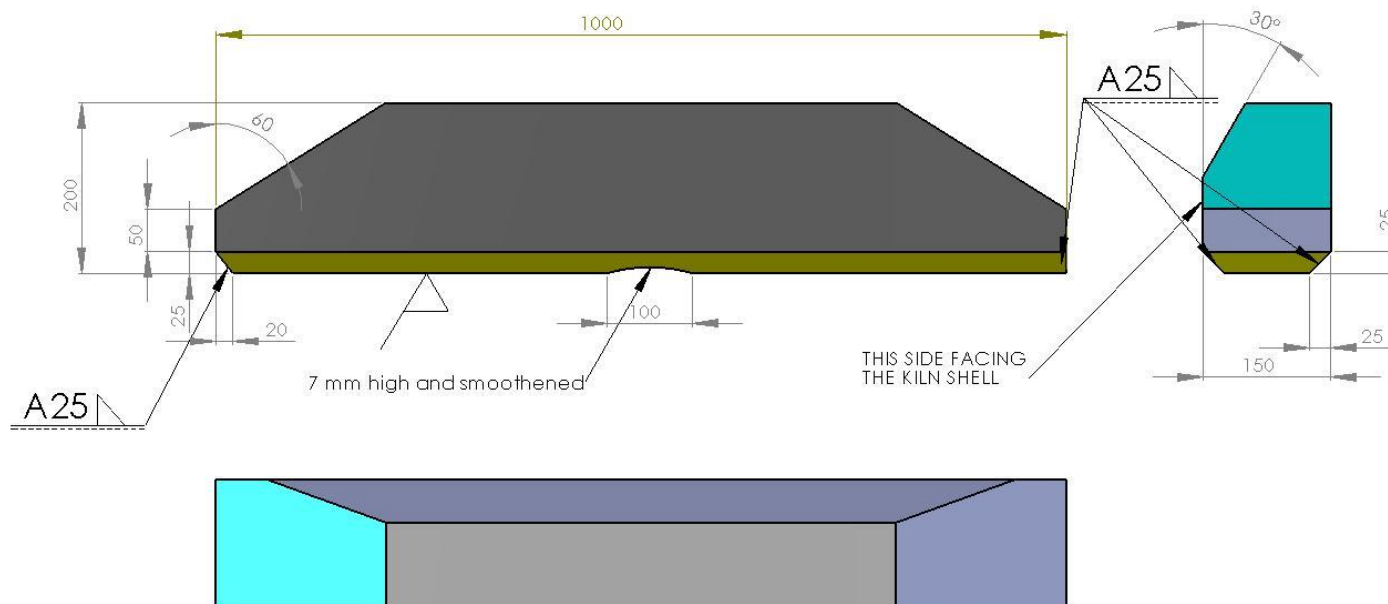
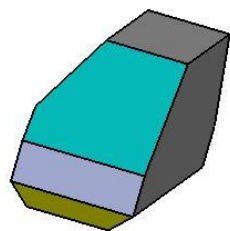


- Make and weld strongbars according to sketch on the other side of kiln II, tyre II
- ASAP UT at kiln III, tyre II. Evaluate and weld strongbars.
- After full production for one day, check the strong bars and cracks at kiln II.
- Kiln II + III; the cracks must be kept under surveillance twice a day.

Other recommendations



- Reduce production in order to spare the liverings.
- Make an excellent welding job with the strongbars – and keep in mind that it has to last for 6 month.
- Plan the change of liverings in a consecutive way.



WELDING RODS:
 CASTOLIN XUPER 2222
 Ø2,5 FOR TACKING
 Ø3,2 FOR BOTTOM STRING
 Ø4/Ø5 FOR FILLING UP

PRE-HEATING:
 TACKING - 100 °
 BOTTOM AND FILL - 130 °

ALL START/STOPS TO BE GROUND
 ALL WELDINGS TO BE SMOOTHENED
 BY GRINDING AFTERWARDS

DRAWING NO.	STRONG BAGS
DATE	16. DECEMBER 2010
AUTHOR	CHRIS PEDERSEN - PSM
	