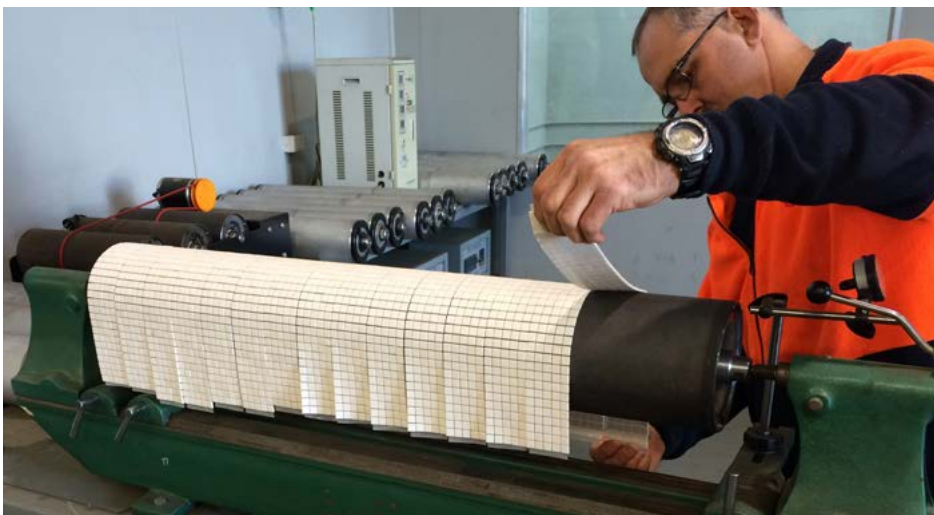
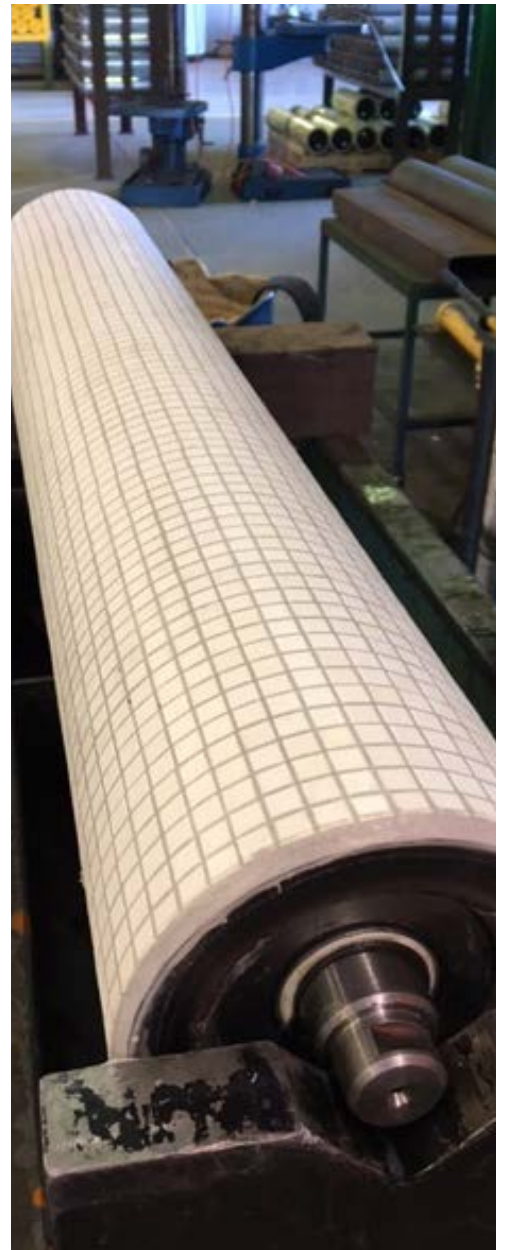
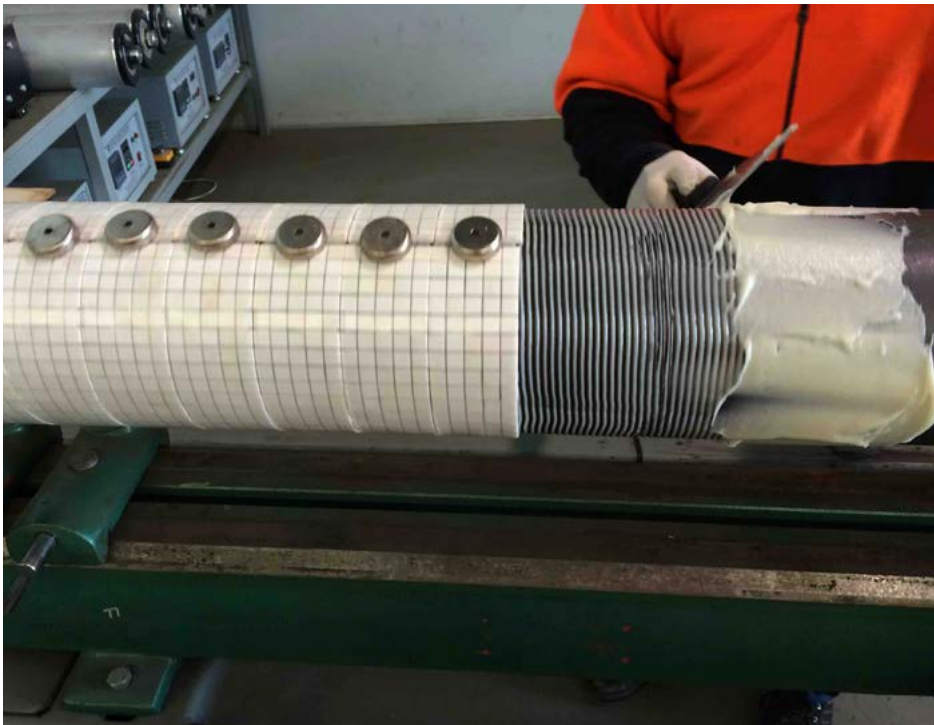


Direct Bond Ceramic Pulley Lagging - Rolls <300 mm Diameter

APPLICATION PROCEDURE V1



DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1

Work Instruction

DEVELOPED BY: David Molesworth	DATE ORIGINATED: 12/08/16	DATE TO BE REVIEWED: 12/08/18
PPE REQUIRED:	Latex gloves, safety shoes, respirator	
BASIC LABOUR COMPETENCY STANDARDS:	Experience lagging pulleys or laying tiles	

Safety Requirements

- Approved safety glasses:



- Approved hearing protection:



- Approved respirator:



- Approved safety boots:



- Approved hand gloves:



Required Tools & Equipment

- NBR Latex Gloves
- Methylated spirits
- Lint free rags
- Mixing boards
- Stanley knife
- Plastic scrapers & putty knives
- Stop watch timer
- Temperature and Dew Point Meter
- Notched trowel
- Clip board and *Direct Bond Ceramic Lagging*
- Elastotec Magnets – 32 kg
- Elastotec Wrapping Tape rolls
- Application Record sheet (See Appendix A)*

NOTE:

LAGGING CONDITIONS

- Max humidity 80%
- Minimum Temperature 15 C
- Maximum Temperature 40 C
- Do not lag pulley in direct sunlight

DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1

Work Health & Safety Issues

STEPS	SEQUENCE OF BASIC JOB STEPS	POTENTIAL ACCIDENTS/ HAZARDS & POSSIBLE CONSEQUENCES	RECOMMENDED SAFE JOB PROCEDURES	HAZARD RATING
1.	Roll position and rotation	Roll not secure and may fall	Use properly designed and constructed stands	3
2.	Mix/Handling Elastotec DBA - Drive	a) Exposure to chemicals through inhalation, absorption into skin, ingestion	a) Nitrile gloves prevent the absorption of chemicals into the skin b) Ensure ventilation is sufficient when carrying out this procedure	3
3.	Application of tiles	a) Exposure to chemicals through inhalation, absorption into skin, ingestion	a) Nitrile gloves prevent the absorption of chemicals into the skin. b) Ensure ventilation is sufficient when carrying out this procedure	3
4.	Fill the gaps between the tiles with Elastotec DBA.	a) Exposure to chemicals through inhalation, absorption into skin, ingestion	a) Wear Nitrile gloves prevent the absorption of chemicals into the skin b) Ensure ventilation is sufficient when carrying out this procedure	3
7.	Remove the excess adhesive with methylated spirits and a soft rag.	a) Exposure to chemicals through inhalation, absorption into skin, ingestion	a) Wear PPE at appropriate times. Personal gas mask prevents the inhalation of chemical fumes. Nitrile gloves prevent the absorption of chemicals into the skin b) Ensure ventilation is sufficient when carrying out this procedure	3

RISK ASSESSMENT TOOL (MATRIX)	CONSEQUENCES			
	Major (eg, Death / Disability)	Serious (eg, Serious injury / Lost Time)	Minor (eg, First Aid Injury)	Insignificant (eg, incident but no injury)
Very Likely (and will almost certainly happen)				3 Medium
Likely (and will probably happen at sometime)			3 Medium	3 Medium
Unlikely (but could happen at sometime)		3 Medium	3 Medium	4 Low
Very unlikely (and Might happen only rarely)	3 Medium	3 Medium	4 Low	4 Low

DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1

Set Up Instructions

- Ensure the Elastotec DBCL Drive adhesive is being stored at 20-25C for 24 hours prior to the application. This is to ensure ease of mixing and application
- Ensure that the stands being used for support of the roll are secure and capable of handling the load.
- Roll shell face must be sandblasted to Class 2½ abrasive blast in accordance with AS 1627.4 and bonding surface must be free from all sort of contamination i.e. Rust, oil/grease, paint etc.
- Apply 1 coat of Elastotec Metal Primer 2207 within 30 minutes of sandblasting. After 60 minutes apply a second coat and allow to dry.
- This step is only required if the DBCL will not be applied to the roll within 60 minutes of the sandblasting of the surface.

IMPORTANT NOTE:

Before applying the Elastotec Metal Primer 2207 check the Dew Point and the temperature of the steel roll surface. The dew point must be more than 5 C above the temperature of the steel roll surface

- Cleanliness is one of the major important aspect in the bonding application, when wiping/cleaning the surfaces do not use cloths/rags that will snag & deposit residue on the cleaned surfaces and also make sure that the tiles and epoxy applied surfaces are only handled with NBR latex gloves.



Application Instructions

1. Place the roll on stands horizontally.
2. Prepare the Elastotec DBCL Checklist and Adhesive – there should be one container of adhesive PART A (blue lid) and one container of adhesive PART B (red lid)

3. Prepare the tile strips in ready to install condition for the roll as shown in the below picture. Cut the strips to fit neatly around the roll –maximum gap 5 mm and to leave a 3-5 mm gap at each end of the roll.

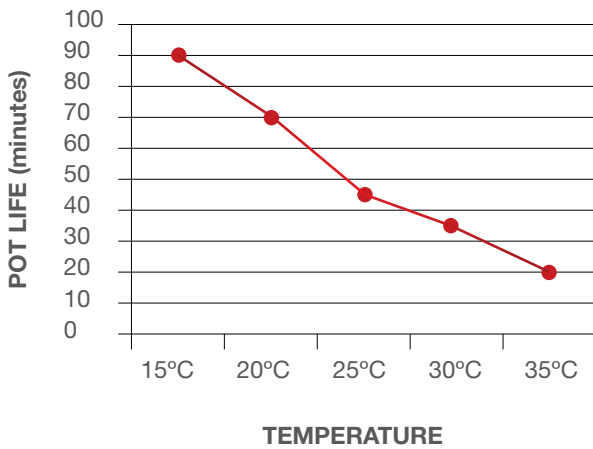


DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1



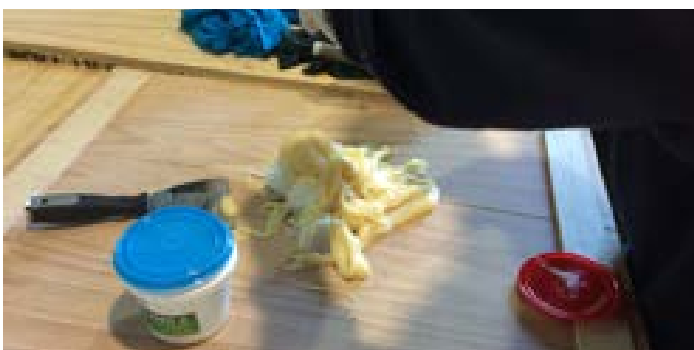
4. Check temperature and record on the checklist. Refer to the chart of pot life vs temperature below and record pot life on the checklist

**POT LIFE OF ELASTOTEC DBA FROM 15°C TO 35°C
- 1 kg mass**



5. Mix Elastotec DBA Drive on a flat, smooth and clean surface (Please refer MSDS for Safety instruction). Start timer when mixing begins and record pot life on the Elastotec DBCL Checklist.

IT IS VERY IMPORTANT TO ENSURE THAT THE ADHESIVE IS THOROUGHLY MIXED AND THAT NO UNMIXED PORTIONS OF PART A OR PART B REMAIN ON THE MIXING BOARD OR ON THE MIXING TOOLS



NOTE:
Coverage 2.5 litres/sqm with a 4 mm saw tooth trowel.
When mixing less than full kit quantities mix adhesive PARTS A: PART B at 1:1 by volume or 1:0.86 by weight

6. Transfer mixed adhesive to clean board to avoid using unmixed resin or hardener.
7. Apply the mixed adhesive evenly to the roll face and screed at 90 degrees to the shaft axis with a steel 4 mm notched trowel (available from Elastotec). Hold the notched trowel at 90 degrees to the roll surface to ensure uniform adhesive thickness.



8. Apply tile strips/pads and press into the adhesive. Pull each tile strip tightly around the roll press firmly into the adhesive – this is important to force the adhesive into the 1 mm gaps between each tile and to ensure good TIR on the finished roll. If this step is done properly it will not be necessary to grout the roll at the end of the application process.

Check the gap where the ends of the tile strip meet – it should be similar to the gap when the tile strips were placed on the roll to check fitment in Step 3.

DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1

Apply an Elastotec 32 kg magnet over the join at the ends of each strip. This will hold the tile strip in place until the roll is ready for the wrapping process. Continue applying tile strips along the length of the roll being careful to align the tile joints and gaps between each tile.

When all the tile strips are in place there should be a gap between each end of the roll and the first tile strip of 3-5 mm.



9. Starting at one end of the roll tightly wrap the roll over the tiles with the Elastotec DBCL Tape. The wrapping should start with one complete revolution at the roll end and should then move to a spiral wrap with a 30-50% overlap. Remove the Elastotec Magnets as the wrapping moves along the roll and apply sufficient tension to press the tile strips tightly against the roll surface.

The Elastotec Wrapping Tape is designed to release from the cured adhesive and have sufficient cut/tear resistance to allow removal in a continuous strip – this keeps the required labour time for removal to a minimum.



10. Allow the adhesive to cure overnight and then remove the tape from the roll.

9. Apply adhesive to fill the 3-5 mm gap between the end of the roll and the first row of tiles. This can be finished off with a gloved finger dipped in methylated spirits to give a neat chamfer finish at each end of the roll.

When all the tile strips are on the roll and correctly positioned and the end gap has been filled the roll is ready for wrapping.



DIRECT BOND CERAMIC PULLEY LAGGING - ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1

11. If there are unfilled gaps between the tiles or at the joint apply mixed adhesive to the roll surface to fill the gaps. Remove the excess adhesive with a rubber tiling squeegee and clean the tile surface with a lint free cloth soaked in methylated spirits.
12. For each batch of rolls that are lagged perform an adhesion test - result to be adhesion > 15 MPa



Appearance of finished rolls with Elastotec DBCL



**DIRECT BOND CERAMIC PULLEY LAGGING
- ROLLS <300 MM DIAMETER, APPLICATION PROCEDURE V1**

Appendix A



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DIRECT BOND CERAMIC LAGGING APPLICATION RECORD

Complete approved applicator details

DATE:	APPROVED APPLICATOR:	OPERATOR:	LOCATION:
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Complete customer/end user details

CUSTOMER:	LOCATION:	CUSTOMER CONTACT:	PURCHASE ORDER:
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Complete pulley details and lagging details

PULLEY DIAMETER (MM):	PULLEY FACE WIDTH (MM):	REFURB. OR NEW:	END USE:	DRIVE/NON DRIVE:
TILE TYPE:	LAGGED AREA:	TILE QTY:	ADHESIVE QTY:	STEEL PREPARATION:

Complete details for each batch of Elastotec Direct Bond Adhesive that is mixed

MIX:	TIME:	TEMPERATURE:	HUMIDITY:	ADHESIVE MIX QTY:	POT LIFE:	OPERATOR:
1ST MIX						
2ND MIX						
3RD MIX						
4TH MIX						
5TH MIX						
6TH MIX						
7TH MIX						
8TH MIX						
9TH MIX						
10TH MIX						

Add photo of pulley before lagging

Add photo of finished pulley

Record actual qty of adhesive and tiles that are used

ACTUAL ADHESIVE QTY USED:	ACTUAL TILE QTY USED:	DATE:	OPERATOR SIGNATURE:	DATE:
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