



January 24, 2001

Specialty Polymer Coatings, Inc.
#104 – 20529 – 62nd Avenue,
Langley, B.C. Canada,
V3A 8R4

Attention: Rob Alliston

Re: TransCanada 80°C Continuous Service Temperature and Summer Recoat Coating Qualification Programs.

Dear Rob,

The purpose of this letter is to confirm that the testing program carried out at the TCPL Airdrie Service Centre has indicated SPC 2888 RG Liquid Urethane Epoxy has passed all the acceptance criteria in the TransCanada 80°C continuous service temperature program and TransCanada summer recoat program. Your product will be added to TCPL specifications, TES-COAT-EPU and TES-COAT-STN. We will be contacting you in the future to discuss our next steps.

Attached are the results of the tests that were performed on SPC 2888 RG, which was applied by Advance Coating Solutions. Please review your results and contact us if you have any questions or concerns.

Thank you,

Bob Bauer
Technologist

c.c. Aida Lopez
Kevin Orthner

TRANSCANADA TRANSMISSION

**80°C CONTINUOUS SERVICE
PROGRAM**

PRODUCT EVALUATION

NPS 6 PIPE MATERIAL

COATED WITH SPC-2888 RG

APPLIED BY

**ADVANCE COATING SOLUTIONS
EDMONTON, ALBERTA**

**TESTING CONDUCTED AT
AIRDRIE SERVICE CENTRE**

SEPTEMBER 2000

TRANSCANADA
80°C Continuous Service Program
Product Evaluation – SPC 2888-RG
September, 2000

Cathodic Disbondment: Test Method CSA Z245 20 M98 Clause 12.8

Test Temperature and Duration	Panel Number	Disbondment Radius (mm)	Dry Film Thickness (mils)	Average Radius of Disbondment (mm)	Date of Completion	Coating Type
24 hour 65°C @ 3.5 volts	1	3.4	29.3	3.3	Aug/9/00	SPC 2888-RG
	2	3.2	28.7			
	3	3.2	29.1			
48 hour 65°C @ 1.5 volts	1	4.1	29.7	4.1	Aug.25/00	SPC 2888-RG
	2	3.6	33.4			
	3	4.5	25.3			
48 hour 80°C @ 1.5 volts	1	3.8	28.7	3.9	Oct.10/00	SPC 2888-RG
	2	3.8	27.8			
	3	3.9	33.0			
14 day 50°C @ 1.5 volts	1	7.3	22.9	7.0	Aug.17/00	SPC 2888-RG
	2	6.2	29.7			
	3	7.4	26.2			
14 day 65°C @ 1.5 volts	1	7.7	34.3	7.7	Sept.26/00	SPC 2888-RG
	2	8.1	30.7			
	3	7.4	31.3			
14 day 80°C @ 1.5 volts	*1	9.2	32.0	7.3	Aug.17/00	
	2	5.6	36.4			
	3	7.2	32.5			

* Note: discoloration of test panel, exhibiting a dark surface of the coating

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Cathodic Disbondment Continued: Test Method CSA Z245 20 M98 Clause 12.8

Test Temperature and Duration	Panel Number	Disbondment Radius (mm)	Dry Film Thickness	Average Radius of Disbondment (mm)	Date of Completion	Coating Type
28 day 20°C @ 1.5 volts	1	3.4	31.4	3.4	Aug.18/00	SPC 2888-RG
	2	3.5	26.0			
	3	3.2	33.1			
28 day 50°C @ 1.5 volts	1	9.0	28.6	7.9	Aug.18/00	SPC 2888-RG
	2	10.3	22.7			
	3	4.5	32.0			
28 day 65°C @ 1.5 volts	1	9.9	28.3	10.0	Aug.18/00	SPC 2888-RG
	2	11.5	28.8			
	3	8.8	38.4			
28 day 80°C @ 1.5 volts	1	11.2	33.1	9.6	Aug.31/00	SPC 2888-RG
	2	8.9	29.4			
	3	8.7	29.6			

Resistance to Impact of the Coating: Test Method CSA Z245.20 M98 Clause 12.12

*Impact value is the last joule where 3 impacts have passed.

Panel Number	Test Temperature	Joule Value	Holiday detection Voltage (DC)	Average DFT (mils)	Date of Completion	Coating Type
1	-40°C	1.50	2500	27.5	Aug.21/00	SPC 2888-RG
2	-30°C	1.50	2500	26.4	Aug.21/00	SPC 2888-RG
3	-10°C	2.00	2500	32.1	Aug.23/00	SPC 2888-RG
4	0°C	2.00	2500	30.7	Aug.22/00	SPC 2888-RG
5	20°C	3.00	2500	28.3	Aug.23/00	SPC 2888-RG
6	50°C	3.25	2500	29.5	Aug.23/00	SPC 2888-RG
7	65°C	3.5	2500	27.7	Aug.23/00	SPC 2888-RG
8	80°C	3.5	2500	28.9	Aug.23/00	SPC 2888-RG

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Adhesion of the Coating: CSA Z245.21 M98 Clause 12.14

Panel Number	Test Temperature	Duration	CSA Rating	Average Dry Film Thickness (mils)	Date of Completion	Coating Type
1	95°C	24 Hours	1	37.8	Sept.6/00	SPC 2888-RG
2			1	34.4		
3			1	31.3		
1	75°C	48 Hours	1	33.3	Sept.7/00	SPC 2888-RG
2			1	32.9		
3			1	34.0		
1	80°C	48 Hours	1	26.2	Sept.1/00	SPC 2888-RG
2			1	36.0		
3			1	30.1		
1	95°C	14 Day	1	32.3	Aug.17/00	SPC 2888-RG
2			1	27.1		
3			1	27.9		
1	75°C	14 Day	1	32.8	Aug.17/00	SPC 2888-RG
2			1	37.2		
3			1	45.3		
1	80°C	14 Day	1	37.0	Aug.22/00	SPC 2888-RG
2			1	33.2		
3			1	24.7		
1	95°C	28 Day	1	27.9	Sept.1/00	SPC 2888-RG
2			1	25.1		
3			1	34.5		
1	75°C	28 Day	1	35.8	Sept.1/00	SPC 2888-RG
2			1	28.3		
3			1	30.1		
1	80°C	28 Day	1	30.5	Sept.1/00	SPC 2888-RG
2			1	27.9		
3			1	27.3		

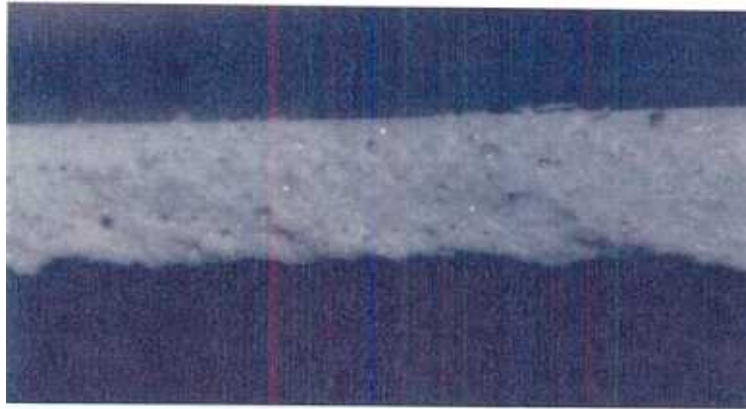
Hardness of the Coating

Panel Number	Test Temperature	Shore D Hardness	Date Completed
1	-40°C	89	Aug.21/00
2	-30°C	89	Aug.21/00
3	-10°C	88	Aug.23/00
4	0°C	87	Aug.22/00
5	20°C	86	Aug.23/00
6	50°C	85	Aug.23/00
7	65°C	76	Aug.23/00
8	80°C	75	Aug.23/00

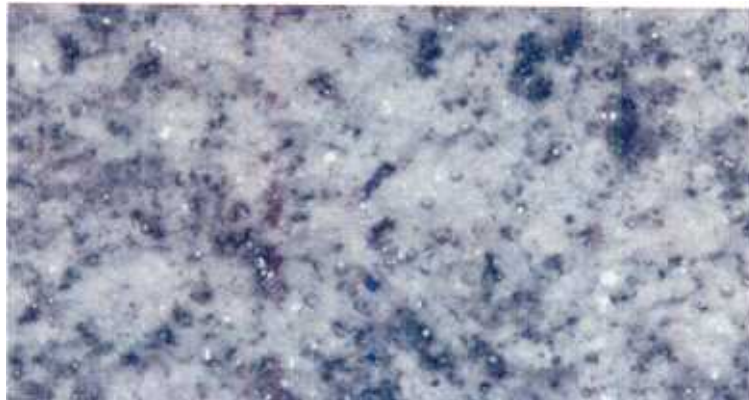
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Porosity of the Coating: Test Method - CSA Z245.20 - M98. Clause 12.10

	RATING
A. Cross-Sectional Porosity rating of three chip samples	2
B. Interface Porosity rating of three chip samples	3
Date tests completed:	September 25, 2000



Cross - Sectional Porosity Area



Interface Porosity Area

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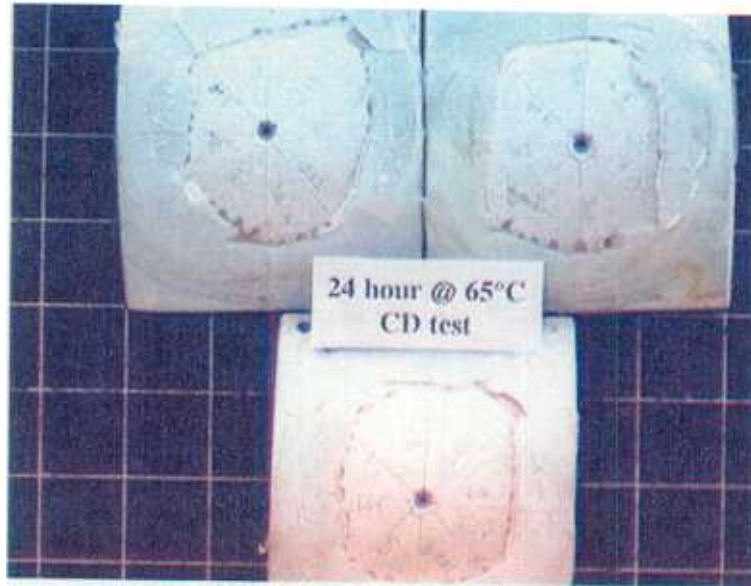


Figure 1: 24 hour @ 65°C Cathodic Disbondment Test Panels

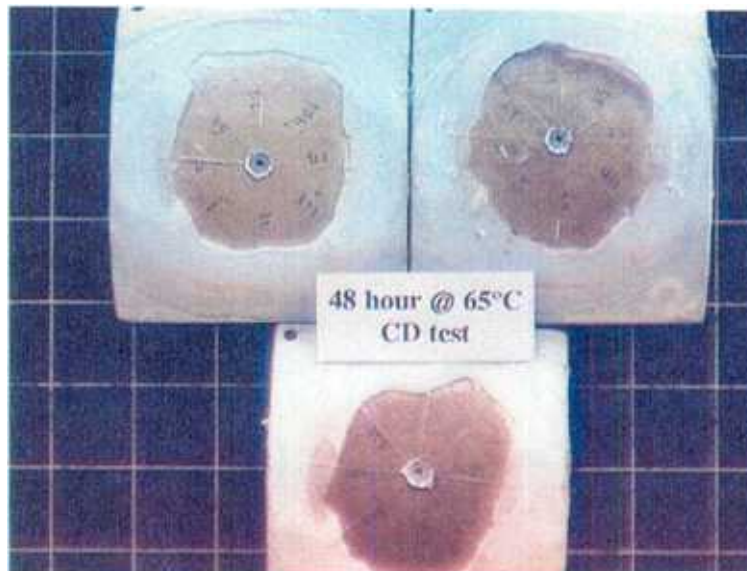


Figure 2: 48 hour @ 65°C Cathodic Disbondment Test Panels

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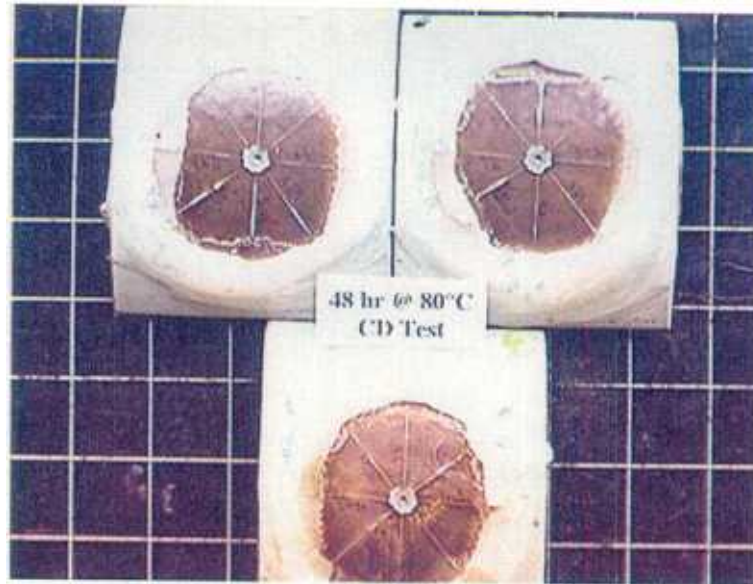


Figure 3: 48 hour @ 80°C Cathodic Disbondment Test Panels

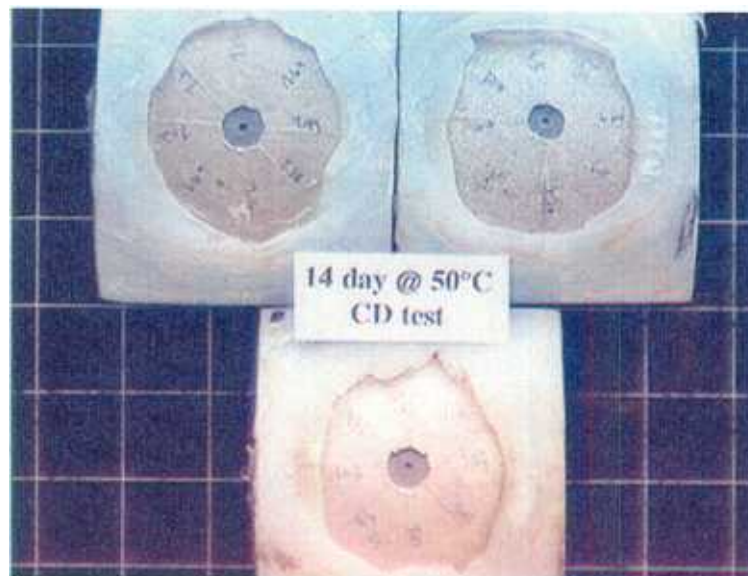


Figure 4: 14 day @ 50°C Cathodic Disbondment Test Panels

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Figure 5: 14 day @ 65°C Cathodic Disbondment Test Panels



Figure 6: 14 day @ 80°C Cathodic Disbondment Test Panels

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Figure 7: 28 day @ 20°C Cathodic Disbondment Test Panels



Figure 8: 28 day @ 50°C Cathodic Disbondment Test Panels

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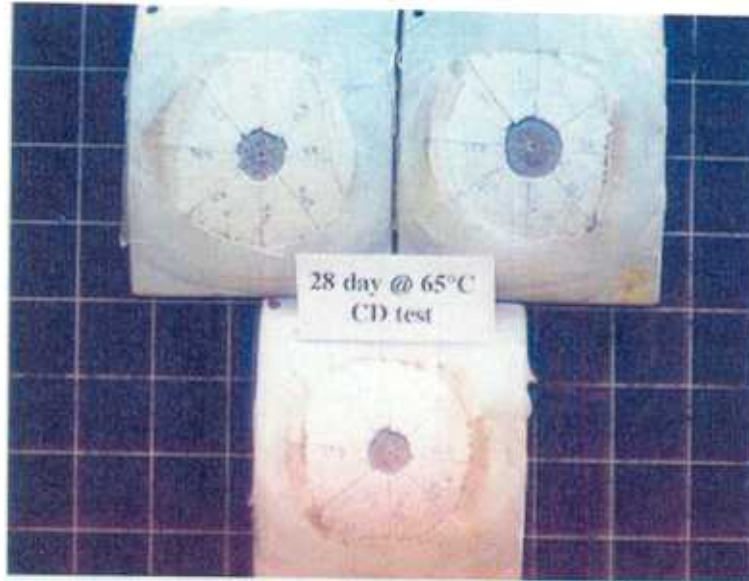


Figure 9: 28 day @ 65°C Cathodic Disbondment Test Panels



Figure 10: 28 day @ 80°C Cathodic Disbondment Test Panels