Project Pinpoint finds single-plies dominating

Problems with newer materials rise with use

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"There are lies, damned lies and statistics," B. Disraeli.

Project Pinpoint is a continuing survey of NRCA's contractor membership. Its findings indicate the trends and problems members perceive with low-slope, commercial and industrial roofing in the United States. The 1986 statistics were gathered from respondents representing all areas of the country.

For baseline data, the 1986 Project Pinpoint survey asked respondents to report on roofs under construction on specific dates in January, April, September and December 1986. Information on problem jobs was also collected from respondents, who documented the problem roofs that came to their attention within a specific time period. This problem roof data was divided into two categories: built-up problem jobs and single-ply problem jobs.

For the 1986 Project Pinpoint, NRCA collected reports on 1,348 roofing projects. Of these reports, 653 concerned roofs in the baseline category, 220 were about problem roofs in the built-up category and 475 were about problem roofs in the single-ply category.

Project Pinpoint's baseline information is used to gauge general industry trends. The 1986 responses indicate that the use of single-ply membranes is continuing to grow. Of the 637 reports that list the type of membrane that was used on the job, 61 percent said the membrane was either an elastomeric, thermoplastic or modified bitumen product. Of these single-ply roofs, more than half (60 percent) were EPDM systems. Another 26 percent were modified bitumen roofs and the remaining 14 percent used other single-ply materals such as CSPE, CPE or PVC. Chart 1 breaks down the entire 637 baseline roofs by the type of membrane used.

Of the 251 baseline reports that listed built-up roofing as the membrane used, a majority (56 percent) said a four-ply system was chosen. Another 39 percent used a three-ply system.

As can be seen in Chart 2, the most common built-up roof uses glass felts as the reinforcement and asphalt as the interply adhesive. Fiber glass reinforcement was chosen for 91 percent of the baseline projects, and asphalt was chosen for 92 percent of the projects, according to the survey responses Project Pinpoint received. The asphalt used was generally ASTM D-312, Type III; it was select-

Chart 1 Types of membranes used Total reported: 637

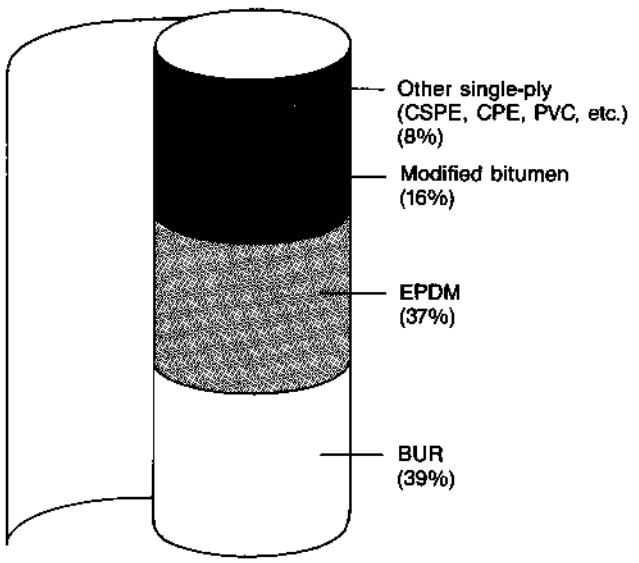
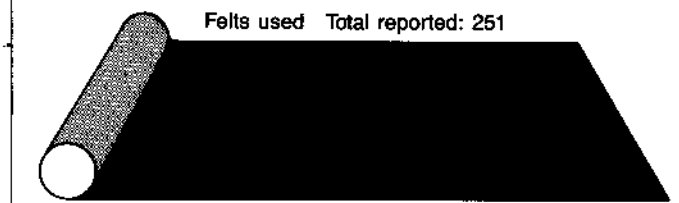
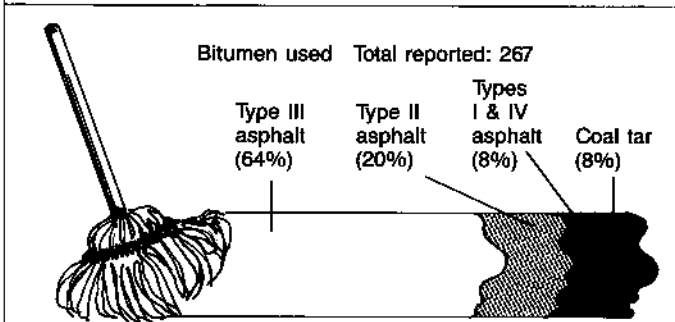


Chart 2 BUR components used





Unfortunately, the responses do not offer any clues to the causes of these problems.

Chart 3 Types of insulation used Total reported: 642

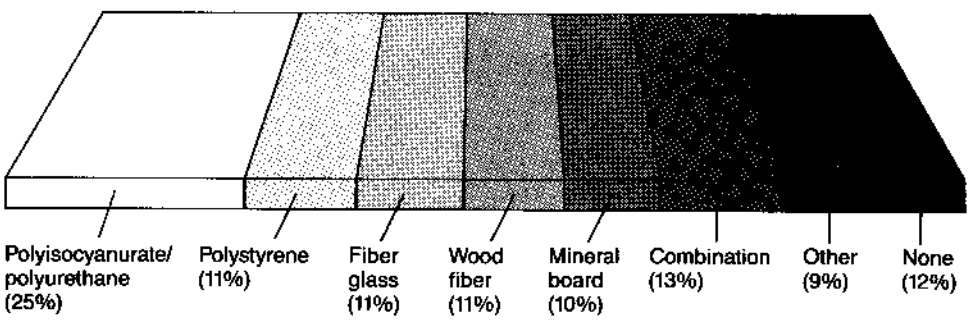


Chart 4 BUR problems

Problem type	1986 results Total reported: 321 % of total	1985 results Total reported: 314 % of total
Interply blistering	25	23
Splitting	21	8
Flashing defects	14	3
Ridging	11	2
Slippage	6	2
Wind-related	2	3
Other/combination	21	59

Chart 5 Single-ply problems
Total reported: 794

Problem type	% of total
Lap defects	24
Flashing defects	16
Shrinkage	12
Punctures	12
Embrittlement	7
Wind-related	5
Blistering	4
Other/combination	20

ed two-thirds of the time. Another 20 percent of the projects reported using Type II asphalt. The other 8 percent of the projects were equally divided between Types I and IV.

The survey results also show that insulation is being used almost all of the time. Only 12 percent of the baseline jobs did not include insulation. Polyisocyanurates and polyurethanes are the most popular choices, accounting for about 25 percent of the projects reported. Chart 3 shows a complete breakdown of the types of insulation used.

Single-ply problems

During last year, Project Pinpoint respondents reported observing more than 1,100 problems on 695 roofs. Problems with single-ply roofs were reported most often, accounting for 68 percent of the problem jobs described in the reports. Although it's difficult to say what the statistical significance of this data is, the reports do show that contractors are experiencing or perceiving problems with all categories of roofing membrane materials. Unfortunately, the responses do not offer any clues to the causes of these problems. They do not say, for instance, whether these are problems with the roofs' designs, materials or applications.

The BUR problems the 1986 survey respondents are reporting are the same problems respondents reported on previous Project Pinpoint surveys. As Chart 4 indicates, blistering is still the defect most often observed. The second most common defect reported on this survey as on past surveys was splitting.

Survey respondents also indicated how serious they perceived these BUR problems to be. According to the survey's results, 40 percent of the problems observed were ranked as serious. On a related question, respondents reported that 23 percent of these problem roofs were involved or could become involved in litigation.

In the single-ply category, defective laps accounted for nearly one-quarter of the 794 defects found on 475 problem roofs (Chart 5). Flashing-related problems accounted for another 16 percent of the defects. Other problems observed with single-plies included membrane shrinkage, punctures, embrittlement, blistering and wind-related problems.

The respondents ranked 42 percent of the 467 single-ply problem roofs as severe, and said that 24 percent of them were either currently involved in litigation or could become involved at some point.