



LUBRIPRO

Creation date: 15 mai 2020

# TECHNICAL DATA SHEET

# POLYPRO - EM



# POLYPRO EM

stabilized polyurea

**lubricating grease designed for electric motors and all-purpose**

## DESCRIPTION

**PolyPro-EM** is a premium quality lubricating grease primarily designed to protect the bearings of ELECTRICAL MOTORS and can also be used as an ALL-PURPOSE grease. This grease, fortified with an innovative STABILIZED POLYURED thickener and developed using exclusive manufacturing techniques, provides superior bearing performance and extends the life of electric motors.

## ADVANTAGES

This new grease with STABILIZED POLYURATE thickener is compatible with thickeners :  
LITHIUM COMPLEX and CALCIUM SULFONATE

|    |                                                                                                                                               |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | Provides protection and extended life for bearings and bearings subjected to very high temperatures, especially for sealed-for-life bearings. |
| 02 | Offers superior resistance to conventional stabilized polyurea-based greases when subjected to mechanical shear stresses.                     |
| 03 | Provides excellent corrosion and rust resistance providing superior protection to surfaces subjected to washing with lightly salted water.    |
| 04 | Suitable for the lubrication of ball bearings in many noise sensitive applications.                                                           |

## APPLICATIONS

**PolyPro-EM** is recommended by the majority of bearing and electric motor manufacturers requiring long term protection and for applications such as: vertical bearings or very large motors where a more rigid grease consistency is required.

## LUBRIPRO CANADA

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### KEY APPLICATIONS

- Lifetime sealed bearings ;
- Electric motor bearings ;
- Bearings of pumps subjected to high temperatures;
- Ball and roller bearings operating in noise-sensitive environments;
- Ball and roller bearings subjected to high temperatures where low oil separation is required.

### CHARACTERISTICS OF OIL AND OIL SOLUBLE ADDITIVES

| <b>OIL VISCOSITY BASE KEY -- ISO - VG ISO</b>      | <b>150</b>                 |
|----------------------------------------------------|----------------------------|
| <b>VISCOSITY INDEX -- (VI)</b>                     | <b>101</b>                 |
| <b>FLUID VISCOSITY, ASTM 0-445 (cst) : @ 40°C</b>  | <b>120-145</b>             |
| <b>FLUID VISCOSITY, ASTM D-445 (cst) : @ 100°C</b> | <b>10,5</b>                |
| CHARACTERISTICS                                    | RESULTS                    |
| Consistency grade --- NLGI                         | <b>2</b>                   |
| Thickener                                          | <b>Stabilized Polyurea</b> |
| Color                                              | <b>Blue</b>                |
| texture                                            | <b>Creamy, homogeneous</b> |
| Penetrability, ASTM D-217<br>→ Worked              | <b>265-295</b>             |
| Base oil pour point °C, ASTM D-97                  | <b>-40°</b>                |
| Welding load, kg, ASTM D-2596                      | <b>400 min.</b>            |
| Drop Point, °F, ASTM D-2265                        | <b>500 min.</b>            |
| Timken OK load, lb, ASTM-2509                      | <b>50</b>                  |
| Rust protection, ASTM-D-1743                       | <b>Success</b>             |
| Spray wash, % weight, ASTM D-4049                  | <b>20,0 max.</b>           |
| Water wash, 175°F, % weight, ASTM D-1264           | <b>5,0 max.</b>            |
| Breakdown voltage, volts/mil ASTM D-149            | <b>+ 900</b>               |
| Test method for the breakdown voltage              | <b>Mil-S-8660C</b>         |

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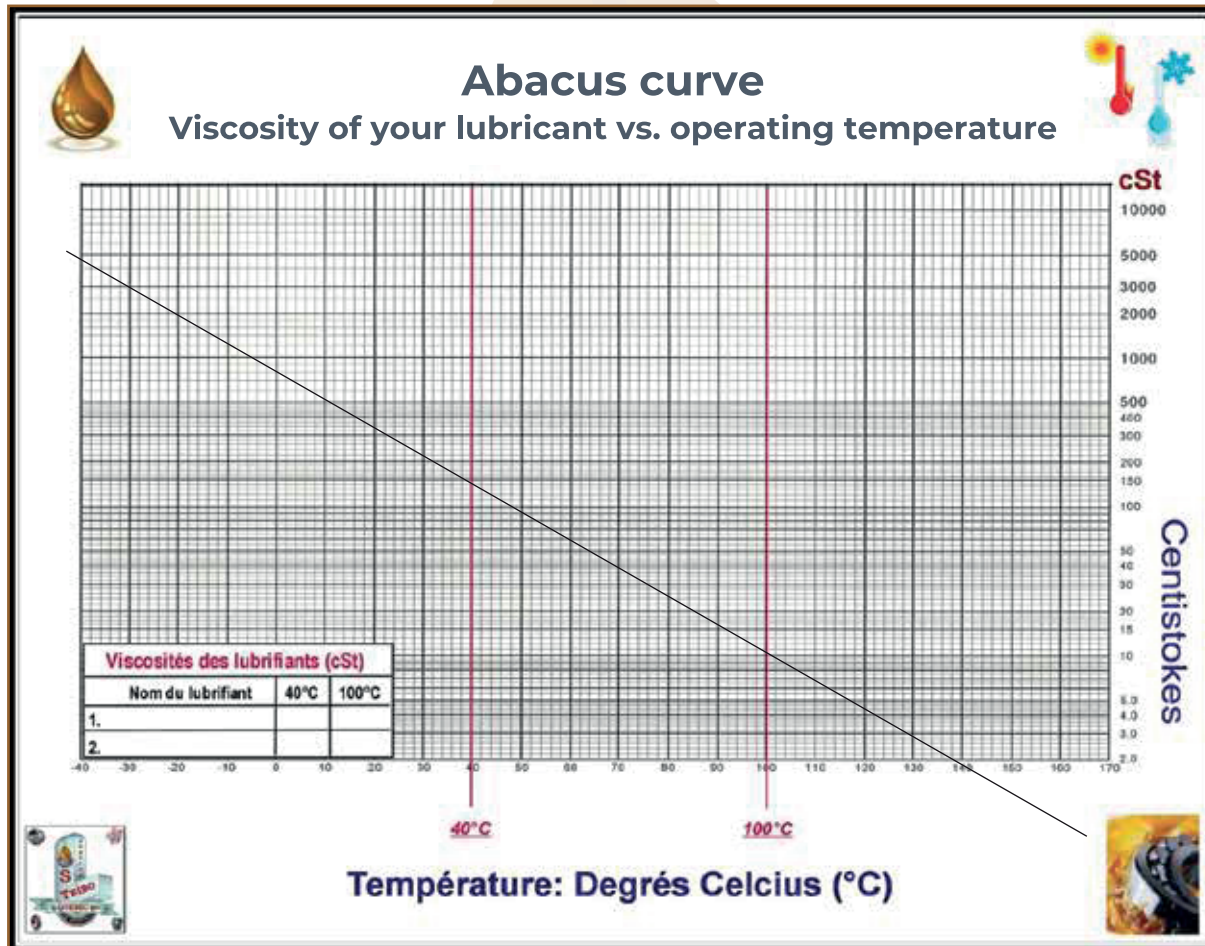


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### ABACUS CURVE / T°C VS VISCOSITY



Your approximate film of oil in cst at your operating temperature.

| T°C | VISCOSITY | T°C | VISCOSITY |
|-----|-----------|-----|-----------|
| 40  | 145       | 80  | 24,5      |
| 50  | 73        | 90  | 15,0      |
| 60  | 60        | 100 | 10,5      |
| 70  | 39        | 110 | 8,0       |

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## COMPATIBILITY STUDY WITH A CONVENTIONAL POLYUREA THICKENER

| Compatibility with lithium complex thickener |                       |                  |                    |              |
|----------------------------------------------|-----------------------|------------------|--------------------|--------------|
| Polyurea grease conventional                 | Grease compl. lithium | Point of Drop °C | Penetration worked | Welding load |
| 100                                          | 0                     | 261              | 301                | 400          |
| 90                                           | 10                    | 228              | -                  | -            |
| 50                                           | 50                    | 216              | 324                | 315          |
| 10                                           | 90                    | 252              | -                  | -            |
| 0                                            | 100                   | 263              | 268                | 315          |

| Compatibility with a calcium sulfonate thickener |                       |                  |                    |              |
|--------------------------------------------------|-----------------------|------------------|--------------------|--------------|
| Polyurea grease conventional                     | Grease compl. lithium | Point of Drop °C | Penetration worked | Welding load |
| 100                                              | 0                     | 261              | 301                | 400          |
| 90                                               | 10                    | -                | 301                | -            |
| 50                                               | 50                    | 252              | 310                | 400          |
| 10                                               | 90                    | 272              | 302                | -            |
| 0                                                | 100                   | 316              | 280                | 500          |

## COMPATIBILITY STUDY WITH A STABILIZED POLYUREA THICKENER

| Compatibility with a Lithium Complex thickener |                       |                  |                    |        |              |
|------------------------------------------------|-----------------------|------------------|--------------------|--------|--------------|
| Polyurea grease conventional                   | Grease compl. lithium | Point of Drop °C | Penetration worked | 10 000 | Welding load |
| 100                                            | 0                     | 277              | 294                | 323    | 620          |
| 90                                             | 10                    | 267              | 288                | 310    | 500          |
| 50                                             | 50                    | 260              | 287                | 315    | 500          |
| 10                                             | 90                    | 261              | 274                | 312    | -            |
| 0                                              | 100                   | 263              | 268                | 290    | 315          |

| Compatibility with a calcium sulfonate thickener |                       |                  |                    |        |              |
|--------------------------------------------------|-----------------------|------------------|--------------------|--------|--------------|
| Polyurea grease conventional                     | Grease compl. lithium | Point of Drop °C | Penetration worked | 10 000 | Welding load |
| 100                                              | 0                     | 277              | 294                | 323    | 620          |
| 90                                               | 10                    | 275              | 292                | 318    | 620          |
| 50                                               | 50                    | 273              | 288                | 317    | 500          |
| 10                                               | 90                    | 283              | 278                | 305    | -            |
| 0                                                | 100                   | 316              | 280                | 288    | 500          |

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FIG -- 1 ; Polyurea ; Ref : 37726, 10-15-07

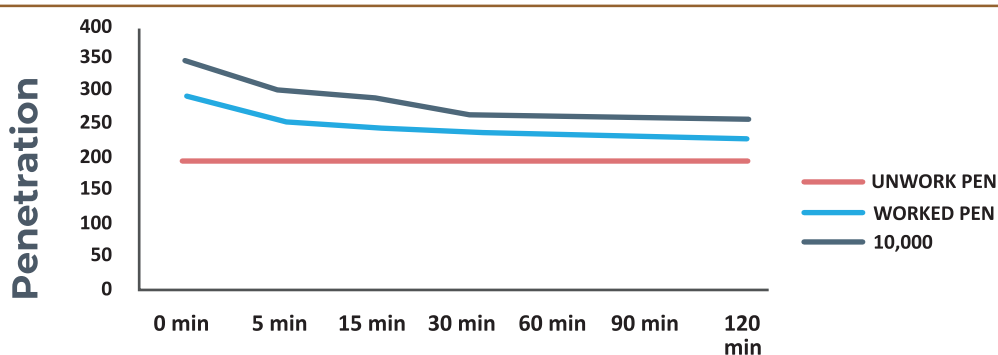
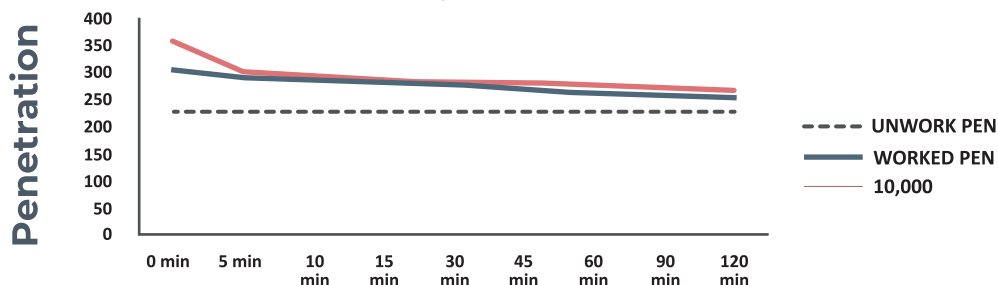


FIG - 3 ; Improved Polyurea , 49555, 10-28-09

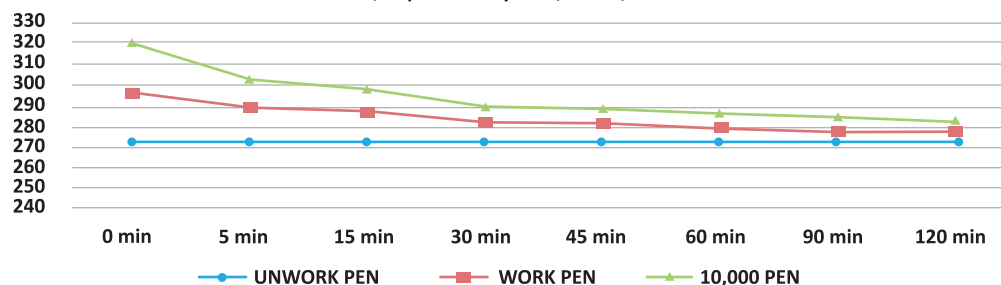
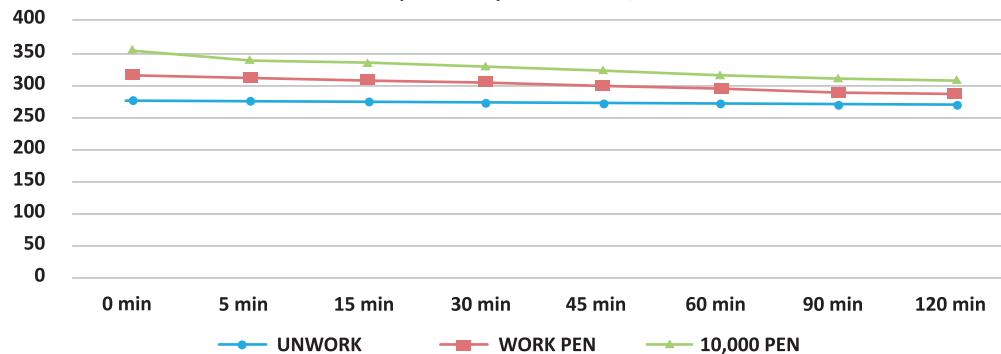


FIG - 4 ; Improved Polyurea; # 43132 , 04-10-09



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## NOTES:

1. This table is a guide to the lubrication recommendations made by the manufacturers.

2. Sealed bearings should not be lubricated.

3. Acceptable temperatures for the operation are between 40 and 70°C.

4. Small electric motors will not be greased; approximately 15HP and less.

5. Small engines that will need to be greased will be on an annual basis by adding a few shots to simply change the worn grease.

6. Always make sure there is a drain for excess grease.

7. For oil-lubricated bearings, maintain the level at half the height of the lowest ball or roller when the equipment is stopped.

8. For more information on the lubrication of your electric motors and for all your other equipment, consult us.

| PUISSANCE<br>du moteur | HP<br>kW | 1/4-7,5<br>0,2-5,6   | 10-40<br>8-32 | 50-150<br>40-125 | 200-300<br>160-250 | 300 & +<br>250 & + | RPM          | ENGINE<br>CHASSIS<br>CATEGORIES | SERVICE |        |
|------------------------|----------|----------------------|---------------|------------------|--------------------|--------------------|--------------|---------------------------------|---------|--------|
| SERVICE                | Pos.     | LUBRICATION INTERVAL |               |                  |                    |                    |              |                                 | 8h/jr   | 24h/jr |
| Light                  | H        | (10 A)*              | (7 A)*        | 4 A              | 2 A                | 1 A                | 3600         | 143T – 256T                     | (---)   | (---)  |
|                        | V        | (7 A)*               | 3 A           | 1,5 A            | 9 M                | --                 |              | 284TS – 286TS                   | 6 M     | 2 M    |
| Normal                 | H        | (7 A)*               | 4 A           | 1,5 A            | 1 A                | 6 M                | 1800         | 324TS -- 587US                  | 4 M     | 2 M    |
|                        | V        | 3 A                  | 1 A           | 6 M              | 3 M                | --                 |              | 143T – 256T                     | (---)   | (---)  |
| Severe                 | H        | 4 A                  | 1,5 A         | 9 M              | 6 M                | 3 M                | 1200<br>et - | 284T – 326T                     | 4 A     | 18 M   |
|                        | V        | 1,5 A                | 6 M           | 3 M              | 1,5 M              | --                 |              | 364T – 449T                     | 1 A     | 4 M    |
| Very<br>severe         | H        | 9 M                  | 4 M           | 4 M              | 3 M                | 2 M                |              | 404T – 449T                     | 9 M     | 3 M    |
|                        | V        | 6 M                  | 3 M           | 2 M              | 1 M                | --                 |              | 505U – 587U                     | 6 M     | 2 M    |
|                        |          |                      |               |                  |                    |                    |              | 505U – 587U                     | 1 A     | 4 M    |
|                        |          |                      |               |                  |                    |                    |              | 505U – 587U                     | 9 M     | 3 M    |

(---): Normally, these types of motors have bearings that do not require lubrication. These bearings will need to be replaced approximately every five (5) years for 8 hour/day operation and every two (2) years for 24 hour/day operation.

## AMOUNT OF FAT

| Shaft<br>Diameter                                            | Vertical Motor<br>(ounce) | Horizontal Motor<br>(ounce) |
|--------------------------------------------------------------|---------------------------|-----------------------------|
| Moins de 1"                                                  | 0.1                       | 0.20                        |
| 1 @ 1,5"                                                     | 0.2                       | 0.50                        |
| 1,5 @ 2,0"                                                   | 0.3                       | 0.65                        |
| 2,0 @ 2,5"                                                   | 0.4                       | 0.75                        |
| 2,5 @ 3,0"                                                   | 0.6                       | 1.00                        |
| 3,0 @ 4,0"                                                   | 0.9                       | 1.20                        |
| 4,0 @ 5,0"                                                   | 1.4                       | 2.50                        |
| Conversion + 1 gram = 0.03527 ounce // 1 ounce = 28.35 grams |                           |                             |

H = Horizontal / V = Vertical / A = Year / M = Month

( )\* = Some people recommend no lubrication.

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