

## **TECHNICAL SHEET**

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### **SUBSTANCE/PREPARATION AND COMPANY NAME :**

**1.1. Product name:** SOLARTEN SUPER - 28  
**1.2. Use:** Monopropylenglykol antifreeze/anticorrosion fluid for with low freezing point for all type sof collectors including vacual.  
**1.3. Producer :** ZEVAR<sup>®</sup>, s.r.o.  
Address: Větrný Jeníkov 147, 588 42 Větrný Jeníkov  
Registration number: 25544101  
VAT number: CZ25544101  
Contact address: ZEVAR, s.r.o., Lihovar 147, 588 42 Větrný Jeníkov, Czech Republic  
Phone: +420 560 995 132

### **2. WORKING CONDITIONS :**

Freezing temperature: - 28°C  
Working temperature: up to 230°C (max. 2,5Mpa)  
Short term overheat temperature: 300°C

### **3. LIFETIME :**

The producer expects lifetime of fluid 10 years in case of regulary revised systems. Recommended service of pH and unfreezing point i every 2 years.

### **4. PHYSICAL AND CHEMICAL PROPERTIES:**

**4.1. General information**  
Appearance: softly viscid  
Colour: yellow  
**4.2. Technical information**  
pH mixed with 33% distilled water: 7,2 – 9,0  
Boiling point: 104°C  
Density at 20°C: > 1 025 kg/m<sup>3</sup>  
Index of refraction by 20°C: 1,380 – 1,384  
**4.3. Corrosion resistance** corresponds TL 774

## 5. TECHNICAL PARAMETERS:

| Temperature<br>°C | Density<br>g/cm <sup>3</sup> | Kinematic<br>viscosity<br>mm <sup>2</sup> /s | Heat<br>capacity<br>J/g.K | Heat<br>conductivity<br>W/m.K |
|-------------------|------------------------------|----------------------------------------------|---------------------------|-------------------------------|
| -20               | 1,053                        | 60                                           | 3,45                      | 0,388                         |
| -10               | 1,049                        | 26                                           | 3,49                      | 0,393                         |
| 0                 | 1,045                        | 15                                           | 3,53                      | 0,400                         |
| 10                | 1,040                        | 8                                            | 3,56                      | 0,407                         |
| 20                | 1,034                        | 5                                            | 3,60                      | 0,414                         |
| 30                | 1,028                        | 3,5                                          | 3,64                      | 0,421                         |
| 40                | 1,022                        | 2,5                                          | 3,68                      | 0,428                         |
| 50                | 1,015                        | 1,9                                          | 3,72                      | 0,435                         |
| 60                | 1,008                        | 1,7                                          | 3,76                      | 0,442                         |
| 70                | 1,001                        | 1,4                                          | 3,80                      | 0,449                         |
| 80                | 0,994                        | 1,2                                          | 3,84                      | 0,456                         |
| 90                | 0,985                        | 1,0                                          | 3,88                      | 0,463                         |
| 100               | 0,978                        | 0,8                                          | 3,92                      | 0,470                         |

### 5.5. Prandtl number

Prandtl number =  $\frac{\text{density} \times \text{kinematic viscosity} \times \text{heat capacity}}{\text{thermal conductivity}}$

| Pressure<br>(Mpa)   | 0,1 | 0,2 | 0,3 | 0,4 | 0,5 | 0,6 | 1   | 1,5 | 2   |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Temperature<br>(°C) | 104 | 124 | 140 | 149 | 157 | 165 | 184 | 200 | 215 |