```
split_factor2_wf  THM

⊢  ∀k:{2...}, g:({2..k⁻}→ℕ), x,y:{2..k⁻}.
|  x·y<k ⇒ split_factor2(g; x; y) ∈ {2..k⁻}→ℕ  by Autoℕ
|
1. k : {2...}
2. g : {2..k⁻}→ℕ
3. x : {2..k⁻}
4. y : {2..k⁻}
5. x·y<k
⊢  split_factor2(g; x; y) ∈ {2..k⁻}→ℕ
| by Inst: Thm*  ∀i,j:{2...}. i<i·j & j<i·j    {factors_smaller}
|    Using:[x | y] ...wℕ
|
6. x<x·y & y<x·y
⊢  split_factor2(g; x; y) ∈ {2..k⁻}→ℕ
| by Def THEN New:u FunExtensionality
|
7. u : {2..k⁻}
⊢  if u=₂x→ g(x)+g(x·y) ; u=₂y→ g(y)+g(x·y) ; u=₂x·y→ 0 else g(u) fi
   ∈ ℕ  by SplitOnConclITEs ...ℕ
END
```